SEQUENCE LISTING

<110> Srivastava, Pramod

<120> COMPLEXES OF ALPHA (2) MACROGLOBULIN AND ANTIGENIC MOLECULES FOR
       IMMUNOTHERAPY

<130> 8449-178-999

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gaggggggaga ggagcgagga gtaaagcagg ggtgaagggt tcgaatttgg gggcaggggg   240

cgcacccgcg tcagcaggcc cttcccaggg ggctcggaac tgtaccattt cacctatgcc   300

cctggttcgc tttgcttaag gaaggataag atagaagagt cggggagagg aagataaagg   360

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                        Met Leu Thr Pro Pro Leu Leu Leu Leu Val
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ccg ctg ctt tca gct ctg gtc tcc ggg gcc act atg gat gcc cct aaa   519
Pro Leu Leu Ser Ala Leu Val Ser Gly Ala Thr Met Asp Ala Pro Lys
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act tgc agc cct aag cag ttt gcc tgc aga gac caa atc acc tgt atc   567
Thr Cys Ser Pro Lys Gln Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile
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tca aag ggc tgg cgg tgt gac ggt gaa aga gat tgc ccc gac ggc tct   615
Ser Lys Gly Trp Arg Cys Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser

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Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro
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cca aat gag cac agt tgt ctg ggg act gag cta tgt gtc ccc atg tct        711
Pro Asn Glu His Ser Cys Leu Gly Thr Glu Leu Cys Val Pro Met Ser
75              80                  85                  90

cgt ctc tgc aac ggg atc cag gac tgc atg gat ggc tca gac gag ggt        759
Arg Leu Cys Asn Gly Ile Gln Asp Cys Met Asp Gly Ser Asp Glu Gly
                95                  100                 105

gct cac tgc cga gag ctc cga gcc aac tgt tct cga atg ggt tgt caa        807
Ala His Cys Arg Glu Leu Arg Ala Asn Cys Ser Arg Met Gly Cys Gln
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cac cat tgt gta cct aca ccc agt ggg ccc acg tgc tac tgt aac agc        855
His His Cys Val Pro Thr Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser
            125                 130                 135

agc ttc cag ctc gag gca gat ggc aag acg tgc aaa gat ttt gac gag        903
Ser Phe Gln Leu Glu Ala Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu
    140                 145                 150

tgt tcc gtg tat ggc acc tgc agc cag ctt tgc acc aac aca gat ggc        951
Cys Ser Val Tyr Gly Thr Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly
155                 160                 165                 170

tcc ttc aca tgt ggc tgt gtt gaa ggc tac ctg ctg caa ccg gac aac        999
Ser Phe Thr Cys Gly Cys Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn
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cgc tcc tgc aag gcc aag aat gag cca gta gat cgg ccg cca gtg cta       1047
Arg Ser Cys Lys Ala Lys Asn Glu Pro Val Asp Arg Pro Pro Val Leu
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ctg att gcc aac tct cag aac atc cta gct acg tac ctg agt ggg gcc       1095
Leu Ile Ala Asn Ser Gln Asn Ile Leu Ala Thr Tyr Leu Ser Gly Ala
            205                 210                 215

caa gtg tct acc atc aca ccc acc agc acc cga caa acc acg gcc atg       1143
Gln Val Ser Thr Ile Thr Pro Thr Ser Thr Arg Gln Thr Thr Ala Met
    220                 225                 230

gac ttc agt tat gcc aat gag acc gta tgc tgg gtg cac gtt ggg gac       1191
Asp Phe Ser Tyr Ala Asn Glu Thr Val Cys Trp Val His Val Gly Asp
235                 240                 245                 250

agt gct gcc cag aca cag ctc aag tgt gcc cgg atg cct ggc ctg aag       1239
Ser Ala Ala Gln Thr Gln Leu Lys Cys Ala Arg Met Pro Gly Leu Lys
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ggc ttt gtg gat gag cat acc atc aac atc tcc ctc agc ctg cac cac       1287
Gly Phe Val Asp Glu His Thr Ile Asn Ile Ser Leu Ser Leu His His
                270                 275                 280

gtg gag cag atg gca atc gac tgg ctg acg gga aac ttc tac ttt gtc       1335
Val Glu Gln Met Ala Ile Asp Trp Leu Thr Gly Asn Phe Tyr Phe Val
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Asp Asp Ile Asp Asp Arg Ile Phe Val Cys Asn Arg Asn Gly Asp Thr
300                     305                 310

tgt gtc act ctg ctg gac ctg gaa ctc tac aac ccc aaa ggc atc gcc      1431
Cys Val Thr Leu Leu Asp Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala
315                 320                 325                     330

ttg gac ccc gcc atg ggg aag gtg ttc ttc act gac tac ggg cag atc      1479
Leu Asp Pro Ala Met Gly Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile
                335                 340                 345

cca aag gtg gag cgc tgt gac atg gat gga cag aac cgc acc aag ctg      1527
Pro Lys Val Glu Arg Cys Asp Met Asp Gly Gln Asn Arg Thr Lys Leu
                350                 355                 360

gtg gat agc aag atc gtg ttt cca cac ggc atc acc ctg gac ctg gtc      1575
Val Asp Ser Lys Ile Val Phe Pro His Gly Ile Thr Leu Asp Leu Val
            365                 370                 375

agc cgc ctc gtc tac tgg gcg gac gcc tac cta gac tac atc gag gtg      1623
Ser Arg Leu Val Tyr Trp Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val
            380                 385                 390

gta gac tac gaa ggg aag ggt cgg cag acc atc atc caa ggc atc ctg      1671
Val Asp Tyr Glu Gly Lys Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu
395                 400                 405                     410

atc gag cac ctg tac ggc ctg acc gtg ttt gag aac tat ctc tac gcc      1719
Ile Glu His Leu Tyr Gly Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala
                415                 420                 425

acc aac tcg gac aat gcc aac acg cag cag aag acg agc gtg atc cga      1767
Thr Asn Ser Asp Asn Ala Asn Thr Gln Gln Lys Thr Ser Val Ile Arg
            430                 435                 440

gtg aac cgg ttc aac agt act gag tac cag gtc gtc acc cgt gtg gac      1815
Val Asn Arg Phe Asn Ser Thr Glu Tyr Gln Val Val Thr Arg Val Asp
            445                 450                 455

aag ggt ggt gcc ctg cat atc tac cac cag cga cgc cag ccc cga gtg      1863
Lys Gly Gly Ala Leu His Ile Tyr His Gln Arg Arg Gln Pro Arg Val
            460                 465                 470

cgg agt cac gcc tgt gag aat gac cag tac ggg aag cca ggt ggc tgc      1911
Arg Ser His Ala Cys Glu Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys
475                 480                 485                     490

tcc gac atc tgc ctc ctg gcc aac agt cac aag gca agg acc tgc agg      1959
Ser Asp Ile Cys Leu Leu Ala Asn Ser His Lys Ala Arg Thr Cys Arg
                495                 500                 505

tgc agg tct ggc ttc agc ctg gga agt gat ggg aag tct tgt aag aaa      2007
Cys Arg Ser Gly Phe Ser Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys
                510                 515                 520

cct gaa cat gag ctg ttc ctc gtg tat ggc aag ggc cga cca ggc atc      2055
Pro Glu His Glu Leu Phe Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile
            525                 530                 535
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att aga ggc atg gac atg ggg gcc aag gtc cca gat gag cac atg atc      2103
Ile Arg Gly Met Asp Met Gly Ala Lys Val Pro Asp Glu His Met Ile
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ccc atc gag aac ctt atg aat cca cgc gct ctg gac ttc cac gcc gag      2151
Pro Ile Glu Asn Leu Met Asn Pro Arg Ala Leu Asp Phe His Ala Glu
555             560             565             570

acc ggc ttc atc tac ttt gct gac acc acc agc tac ctc att ggc cgc      2199
Thr Gly Phe Ile Tyr Phe Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg
            575             580             585

cag aaa att gat ggc acg gag aga gag act atc ctg aag gat ggc atc      2247
Gln Lys Ile Asp Gly Thr Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile
            590             595             600

cac aat gtg gag ggc gta gcc gtg gac tgg atg gga gac aat ctt tac      2295
His Asn Val Glu Gly Val Ala Val Asp Trp Met Gly Asp Asn Leu Tyr
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Trp Thr Asp Asp Gly Pro Lys Lys Thr Ile Ser Val Ala Arg Leu Glu
    620             625             630

aaa gcc gct cag acc cgg aag act cta att gag ggc aag atg aca cac      2391
Lys Ala Ala Gln Thr Arg Lys Thr Leu Ile Glu Gly Lys Met Thr His
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ccc agg gcc att gta gtg gat cca ctc aat ggg tgg atg tac tgg aca      2439
Pro Arg Ala Ile Val Val Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr
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gac tgg gag gag gac ccc aag gac agt cgg cga ggg cgg ctc gag agg      2487
Asp Trp Glu Glu Asp Pro Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg
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gct tgg atg gac ggc tca cac cga gat atc ttt gtc acc tcc aag aca      2535
Ala Trp Met Asp Gly Ser His Arg Asp Ile Phe Val Thr Ser Lys Thr
            685             690             695

gtg ctt tgg ccc aat ggg cta agc ctg gat atc cca gcc gga cgc ctc      2583
Val Leu Trp Pro Asn Gly Leu Ser Leu Asp Ile Pro Ala Gly Arg Leu
    700             705             710

tac tgg gtg gat gcc ttc tat gac cga att gag acc ata ctg ctc aat      2631
Tyr Trp Val Asp Ala Phe Tyr Asp Arg Ile Glu Thr Ile Leu Leu Asn
715             720             725             730

ggc aca gac cgg aag att gta tat gag ggt cct gaa ctg aat cat gcc      2679
Gly Thr Asp Arg Lys Ile Val Tyr Glu Gly Pro Glu Leu Asn His Ala
            735             740             745

ttc ggc ctg tgt cac cat ggc aac tac ctc ttt tgg acc gag tac cgg      2727
Phe Gly Leu Cys His His Gly Asn Tyr Leu Phe Trp Thr Glu Tyr Arg
            750             755             760

agc ggc agc gtc tac cgc ttg gaa cgg ggc gtg gca ggc gca ccg ccc      2775
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act gtg acc ctt ctg cgc agc gag aga ccg cct atc ttt gag atc cga      2823
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Met Tyr Asp Ala His Glu Gln Gln Val Gly Thr Asn Lys Cys Arg Val
795               800               805               810

aat aac gga ggc tgc agc agc ctg tgc ctc gcc acc ccc ggg agc cgc       2919
Asn Asn Gly Gly Cys Ser Ser Leu Cys Leu Ala Thr Pro Gly Ser Arg
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cag tgt gcc tgt gcc gag gac cag gtg ttg gac aca gat ggt gtc acc       2967
Gln Cys Ala Cys Ala Glu Asp Gln Val Leu Asp Thr Asp Gly Val Thr
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tgc ttg gcg aac cca tcc tac gtg ccc cca ccc cag tgc cag ccg ggc       3015
Cys Leu Ala Asn Pro Ser Tyr Val Pro Pro Pro Gln Cys Gln Pro Gly
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cag ttt gcc tgt gcc aac aac cgc tgc atc cag gag cgc tgg aag tgt       3063
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gac gga gac aac gac tgt ctg gac aac agc gat gag gcc cca gca ctg       3111
Asp Gly Asp Asn Asp Cys Leu Asp Asn Ser Asp Glu Ala Pro Ala Leu
875               880               885               890

tgc cat caa cac acc tgt ccc tcg gac cga ttc aag tgt gag aac aac       3159
Cys His Gln His Thr Cys Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn
                  895               900               905

cgg tgt atc ccc aac cgc tgg ctc tgt gat ggg gat aat gat tgt ggc       3207
Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly
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aac agc gag gac gaa tcc aat gcc acg tgc tca gcc cgc acc tgt cca       3255
Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro
              925               930               935

ccc aac cag ttc tcc tgt gcc agt ggc cga tgc att cct atc tca tgg       3303
Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp
              940               945               950

acc tgt gat ctg gat gat gac tgt ggg gac cgg tcc gat gag tca gcc       3351
Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala
955               960               965               970

tca tgc gcc tac ccc acc tgc ttc ccc ctg act caa ttt acc tgc aac       3399
Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn
                  975               980               985

aat ggc aga tgt att aac atc aac tgg cgg tgt gac aac gac  aat gac      3447
Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys Asp Asn Asp  Asn Asp
                  990               995               1000

tgt ggg gac  aac agc gac gaa gcc  ggc tgc agt cac tcc  tgc tcc        3492
Cys Gly Asp  Asn Ser Asp Glu Ala  Gly Cys Ser His Ser  Cys Ser
            1005               1010               1015

agt acc cag  ttc aag tgc aac agt  ggc aga tgc atc ccc  gag cac        3537
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aca cac gcc  aac tgt acc aac cag  gct aca aga cct cct  ggt ggc        3627
Thr His Ala  Asn Cys Thr Asn Gln  Ala Thr Arg Pro Pro  Gly Gly
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tgc cac tcg  gat gag ttc cag tgc  ccg cta gat ggc ctg  tgc atc        3672
Cys His Ser  Asp Glu Phe Gln Cys  Pro Leu Asp Gly Leu  Cys Ile
        1065                 1070                 1075

ccc ctg agg  tgg cgc tgc gac ggg  gac acc gac tgc atg  gat tcc        3717
Pro Leu Arg  Trp Arg Cys Asp Gly  Asp Thr Asp Cys Met  Asp Ser
        1080                 1085                 1090

agc gat gag  aag agc tgt gag ggc  gtg acc cat gtt tgt  gac ccg        3762
Ser Asp Glu  Lys Ser Cys Glu Gly  Val Thr His Val Cys  Asp Pro
        1095                 1100                 1105

aat gtc aag  ttt ggc tgc aag gac  tcc gcc cgg tgc atc  agc aag        3807
Asn Val Lys  Phe Gly Cys Lys Asp  Ser Ala Arg Cys Ile  Ser Lys
        1110                 1115                 1120

gcg tgg gtg  tgt gat ggc gac agc  gac tgt gaa gat aac  tcc gac        3852
Ala Trp Val  Cys Asp Gly Asp Ser  Asp Cys Glu Asp Asn  Ser Asp
        1125                 1130                 1135

gag gag aac  tgt gag gcc ctg gcc  tgc agg cca ccc tcc  cat ccc        3897
Glu Glu Asn  Cys Glu Ala Leu Ala  Cys Arg Pro Pro Ser  His Pro
        1140                 1145                 1150

tgc gcc aac  aac acc tct gtc tgc  ctg cct cct gac aag  ctg tgc        3942
Cys Ala Asn  Asn Thr Ser Val Cys  Leu Pro Pro Asp Lys  Leu Cys
        1155                 1160                 1165

gac ggc aag  gat gac tgt gga gac  ggc tcg gat gag ggc  gag ctc        3987
Asp Gly Lys  Asp Asp Cys Gly Asp  Gly Ser Asp Glu Gly  Glu Leu
        1170                 1175                 1180

tgt gac cag  tgt tct ctg aat aat  ggt ggc tgt agt cac  aac tgc       .4032
Cys Asp Gln  Cys Ser Leu Asn Asn  Gly Gly Cys Ser His  Asn Cys
        1185                 1190                 1195

tca gtg gcc  cct ggt gaa ggc atc  gtg tgc tct tgc cct  ctg ggc        4077
Ser Val Ala  Pro Gly Glu Gly Ile  Val Cys Ser Cys Pro  Leu Gly
        1200                 1205                 1210

atg gag ctg  ggc tct gac aac cac  acc tgc cag atc cag  agc tac        4122
Met Glu Leu  Gly Ser Asp Asn His  Thr Cys Gln Ile Gln  Ser Tyr
        1215                 1220                 1225

tgt gcc aag  cac ctc aaa tgc agc  cag aag tgt gac cag  aac aag        4167
Cys Ala Lys  His Leu Lys Cys Ser  Gln Lys Cys Asp Gln  Asn Lys
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ttc agt gtg  aag tgc tcc tgc tac  gag ggc tgg gtc ttg  gag cct        4212
Phe Ser Val  Lys Cys Ser Cys Tyr  Glu Gly Trp Val Leu  Glu Pro
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gac ggg gaa  acg tgc cgc agt ctg  gat ccc ttc aaa ctg  ttc atc          4257
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atc ttc tcc  aac cgc cac gag atc  agg cgc att gac ctt  cac aag          4302
Ile Phe Ser  Asn Arg His Glu Ile  Arg Arg Ile Asp Leu  His Lys
        1275                  1280                  1285

ggg gac tac  agc gtc cta gtg cct  ggc ctg cgc aac act  att gcc          4347
Gly Asp Tyr  Ser Val Leu Val Pro  Gly Leu Arg Asn Thr  Ile Ala
        1290                  1295                  1300

ctg gac ttc  cac ctc agc cag agt  gcc ctc tac tgg acc  gac gcg          4392
Leu Asp Phe  His Leu Ser Gln Ser  Ala Leu Tyr Trp Thr  Asp Ala
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gta gag gac  aag atc tac cgt ggg  aaa ctc ctg gac aac  gga gcc          4437
Val Glu Asp  Lys Ile Tyr Arg Gly  Lys Leu Leu Asp Asn  Gly Ala
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ctg acc agc  ttt gag gtg gtg att  cag tat ggc ttg gcc  aca cca          4482
Leu Thr Ser  Phe Glu Val Val Ile  Gln Tyr Gly Leu Ala  Thr Pro
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gag ggc ctg  gct gta gat tgg att  gca ggc aac atc tac  tgg gtg          4527
Glu Gly Leu  Ala Val Asp Trp Ile  Ala Gly Asn Ile Tyr  Trp Val
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gag agc aac  ctg gac cag atc gaa  gtg gcc aag ctg gac  gga acc          4572
Glu Ser Asn  Leu Asp Gln Ile Glu  Val Ala Lys Leu Asp  Gly Thr
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ctc cga acc  act ctg ctg gcg ggt  gac att gag cac ccg  agg gcc          4617
Leu Arg Thr  Thr Leu Leu Ala Gly  Asp Ile Glu His Pro  Arg Ala
        1380                  1385                  1390

atc gct ctg  gac cct cgg gat ggg  att ctg ttt tgg aca  gac tgg          4662
Ile Ala Leu  Asp Pro Arg Asp Gly  Ile Leu Phe Trp Thr  Asp Trp
        1395                  1400                  1405

gat gcc agc  ctg cca cga atc gag  gct gca tcc atg agt  gga gct          4707
Asp Ala Ser  Leu Pro Arg Ile Glu  Ala Ala Ser Met Ser  Gly Ala
        1410                  1415                  1420

ggc cgc cga  acc atc cac cgg gag  aca ggc tct ggg ggc  tgc gcc          4752
Gly Arg Arg  Thr Ile His Arg Glu  Thr Gly Ser Gly Gly  Cys Ala
        1425                  1430                  1435

aat ggg ctc  acc gtg gat tac ctg  gag aag cgc atc ctc  tgg att          4797
Asn Gly Leu  Thr Val Asp Tyr Leu  Glu Lys Arg Ile Leu  Trp Ile
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gat gct agg  tca gat gcc atc tat  tca gcc cgg tat gac  ggc tcc          4842
Asp Ala Arg  Ser Asp Ala Ile Tyr  Ser Ala Arg Tyr Asp  Gly Ser
        1455                  1460                  1465

ggc cac atg  gag gtg ctt cgg gga  cac gag ttc ctg tca  cac cca          4887
Gly His Met  Glu Val Leu Arg Gly  His Glu Phe Leu Ser  His Pro
        1470                  1475                  1480
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ttt gcc gtg  aca ctg tac ggt ggg  gag gtg tac tgg acc  gac tgg      4932
Phe Ala Val  Thr Leu Tyr Gly Gly  Glu Val Tyr Trp Thr  Asp Trp
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cga aca aat  aca ctg gct aag gcc  aac aag tgg act ggc  cac aac      4977
Arg Thr Asn  Thr Leu Ala Lys Ala  Asn Lys Trp Thr Gly  His Asn
        1500                  1505               1510

gtc acc gtg  gta cag agg acc aac  acc cag ccc ttc gac  ctg cag      5022
Val Thr Val  Val Gln Arg Thr Asn  Thr Gln Pro Phe Asp  Leu Gln
        1515                  1520               1525

gtg tat cac  cct tcc cgg cag ccc  atg gct cca aac cca  tgt gag      5067
Val Tyr His  Pro Ser Arg Gln Pro  Met Ala Pro Asn Pro  Cys Glu
        1530                  1535               1540

gcc aat ggc  ggc cgg ggc ccc tgt  tcc cat ctg tgc ctc  atc aac      5112
Ala Asn Gly  Gly Arg Gly Pro Cys  Ser His Leu Cys Leu  Ile Asn
        1545                  1550               1555

tac aac cgg  acc gtc tcc tgg gcc  tgt ccc cac ctc atg  aag ctg      5157
Tyr Asn Arg  Thr Val Ser Trp Ala  Cys Pro His Leu Met  Lys Leu
        1560                  1565               1570

cac aag gac  aac acc acc tgc tat  gag ttt aag aag ttc  ctg ctg      5202
His Lys Asp  Asn Thr Thr Cys Tyr  Glu Phe Lys Lys Phe  Leu Leu
        1575                  1580               1585

tac gca cgt  cag atg gag atc cgg  ggc gtg gac ctg gat  gcc ccg      5247
Tyr Ala Arg  Gln Met Glu Ile Arg  Gly Val Asp Leu Asp  Ala Pro
        1590                  1595               1600

tac tac aat  tat atc atc tcc ttc  acg gtg cct gat atc  gac aat      5292
Tyr Tyr Asn  Tyr Ile Ile Ser Phe  Thr Val Pro Asp Ile  Asp Asn
        1605                  1610               1615

gtc acg gtg  ctg gac tat gat gcc  cga gag cag cga gtt  tac tgg      5337
Val Thr Val  Leu Asp Tyr Asp Ala  Arg Glu Gln Arg Val  Tyr Trp
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tct gat gtg  cgg act caa gcc atc  aaa agg gca ttt atc  aac ggc      5382
Ser Asp Val  Arg Thr Gln Ala Ile  Lys Arg Ala Phe Ile  Asn Gly
        1635                  1640               1645

act ggc gtg  gag acc gtt gtc tct  gca gac ttg ccc aac  gcc cac      5427
Thr Gly Val  Glu Thr Val Val Ser  Ala Asp Leu Pro Asn  Ala His
        1650                  1655               1660

ggg ctg gct  gtg gac tgg gtc tcc  cga aat ctg ttt tgg  aca agt      5472
Gly Leu Ala  Val Asp Trp Val Ser  Arg Asn Leu Phe Trp  Thr Ser
        1665                  1670               1675

tac gac acc  aac aag aag cag att  aac gtg gcc cgg ctg  gac ggc      5517
Tyr Asp Thr  Asn Lys Lys Gln Ile  Asn Val Ala Arg Leu  Asp Gly
        1680                  1685               1690

tcc ttc aag  aat gcg gtg gtg cag  ggc ctg gag cag ccc  cac ggc      5562
Ser Phe Lys  Asn Ala Val Val Gln  Gly Leu Glu Gln Pro  His Gly
        1695                  1700               1705

ctg gtc gtc  cac ccg ctt cgt ggc  aag ctc tac tgg act  gat ggg      5607
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Leu Val Val  His Pro Leu Arg Gly  Lys Leu Tyr Trp Thr  Asp Gly
        1710              1715              1720

gac aac atc  agc atg gcc aac atg  gat ggg agc aac cac  act ctg      5652
Asp Asn Ile  Ser Met Ala Asn Met  Asp Gly Ser Asn His  Thr Leu
        1725              1730              1735

ctc ttc agt  ggc cag aag ggc cct  gtg ggg ttg gcc att  gac ttc      5697
Leu Phe Ser  Gly Gln Lys Gly Pro  Val Gly Leu Ala Ile  Asp Phe
        1740              1745              1750

cct gag agc  aaa ctc tac tgg atc  agc tct ggg aac cac  aca atc      5742
Pro Glu Ser  Lys Leu Tyr Trp Ile  Ser Ser Gly Asn His  Thr Ile
        1755              1760              1765

aac cgt tgc  aat ctg gat ggg agc  gag ctg gag gtc atc  gac acc      5787
Asn Arg Cys  Asn Leu Asp Gly Ser  Glu Leu Glu Val Ile  Asp Thr
        1770              1775              1780

atg cgg agc  cag ctg ggc aag gcc  act gcc ctg gcc atc  atg ggg      5832
Met Arg Ser  Gln Leu Gly Lys Ala  Thr Ala Leu Ala Ile  Met Gly
        1785              1790              1795

gac aag ctg  tgg tgg gca gat cag  gtg tca gag aag atg  ggc acg      5877
Asp Lys Leu  Trp Trp Ala Asp Gln  Val Ser Glu Lys Met  Gly Thr
        1800              1805              1810

tgc aac aaa  gcc gat ggc tct ggg  tcc gtg gtg ctg cgg  aac agt      5922
Cys Asn Lys  Ala Asp Gly Ser Gly  Ser Val Val Leu Arg  Asn Ser
        1815              1820              1825

acc acg ttg  gtt atg cac atg aag  gtg tat gac gag agc  atc cag      5967
Thr Thr Leu  Val Met His Met Lys  Val Tyr Asp Glu Ser  Ile Gln
        1830              1835              1840

cta gag cat  gag ggc acc aac ccc  tgc agt gtc aac aac  gga gac      6012
Leu Glu His  Glu Gly Thr Asn Pro  Cys Ser Val Asn Asn  Gly Asp
        1845              1850              1855

tgt tcc cag  ctc tgc ctg cca aca  tca gag acg act cgc  tcc tgt      6057
Cys Ser Gln  Leu Cys Leu Pro Thr  Ser Glu Thr Thr Arg  Ser Cys
        1860              1865              1870

atg tgt aca  gcc ggt tac agc ctc  cgg agc gga cag cag  gcc tgt      6102
Met Cys Thr  Ala Gly Tyr Ser Leu  Arg Ser Gly Gln Gln  Ala Cys
        1875              1880              1885

gag ggt gtg  ggc tct ttt ctc ctg  tac tct gta cat gag  gga att      6147
Glu Gly Val  Gly Ser Phe Leu Leu  Tyr Ser Val His Glu  Gly Ile
        1890              1895              1900

cgg ggg att  cca cta gat ccc aat  gac aag tcg gat gcc  ctg gtc      6192
Arg Gly Ile  Pro Leu Asp Pro Asn  Asp Lys Ser Asp Ala  Leu Val
        1905              1910              1915

cca gtg tcc  gga act tca ctg gct  gtc gga atc gac ttc  cat gcc      6237
Pro Val Ser  Gly Thr Ser Leu Ala  Val Gly Ile Asp Phe  His Ala
        1920              1925              1930

gaa aat gac  act att tat tgg gtg  gat atg ggc cta agc  acc atc      6282
Glu Asn Asp  Thr Ile Tyr Trp Val  Asp Met Gly Leu Ser  Thr Ile
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           1935                    1940                    1945

agc agg gcc  aag cgt gac cag aca  tgg cga gag gat gtg  gtg acc        6327
Ser Arg Ala  Lys Arg Asp Gln Thr  Trp Arg Glu Asp Val  Val Thr
         1950                    1955                    1960

aac ggt att  ggc cgt gtg gag ggc  atc gcc gtg gac tgg  atc gca        6372
Asn Gly Ile  Gly Arg Val Glu Gly  Ile Ala Val Asp Trp  Ile Ala
         1965                    1970                    1975

ggc aac ata  tac tgg acg gac cag  ggc ttc gat gtc atc  gag gtt        6417
Gly Asn Ile  Tyr Trp Thr Asp Gln  Gly Phe Asp Val Ile  Glu Val
         1980                    1985                    1990

gcc cgg ctc  aat ggc tct ttt cgt  tat gtg gtc att tcc  cag ggt        6462
Ala Arg Leu  Asn Gly Ser Phe Arg  Tyr Val Val Ile Ser  Gln Gly
         1995                    2000                    2005

ctg gac aag  cct cgg gcc atc act  gtc cac cca gag aag  ggg tac        6507
Leu Asp Lys  Pro Arg Ala Ile Thr  Val His Pro Glu Lys  Gly Tyr
         2010                    2015                    2020

ttg ttc tgg  acc gag tgg ggt cat  tac cca cgt att gag  cgg tct        6552
Leu Phe Trp  Thr Glu Trp Gly His  Tyr Pro Arg Ile Glu  Arg Ser
         2025                    2030                    2035

cgc ctt gat  ggc aca gag aga gtg  gtg ttg gtt aat gtc  agc atc        6597
Arg Leu Asp  Gly Thr Glu Arg Val  Val Leu Val Asn Val  Ser Ile
         2040                    2045                    2050

agc tgg ccc  aat ggc atc tca gta  gac tat cag ggc ggc  aag ctc        6642
Ser Trp Pro  Asn Gly Ile Ser Val  Asp Tyr Gln Gly Gly  Lys Leu
         2055                    2060                    2065

tac tgg tgt  gat gct cgg atg gac  aag atc gag cgc atc  gac ctg        6687
Tyr Trp Cys  Asp Ala Arg Met Asp  Lys Ile Glu Arg Ile  Asp Leu
         2070                    2075                    2080

gaa acg ggc  gag aac cgg gag gtg  gtc ctg tcc agc aat  aac atg        6732
Glu Thr Gly  Glu Asn Arg Glu Val  Val Leu Ser Ser Asn  Asn Met
         2085                    2090                    2095

gat atg ttc  tcc gtg tcc gtg ttt  gag gac ttc atc tac  tgg agt        6777
Asp Met Phe  Ser Val Ser Val Phe  Glu Asp Phe Ile Tyr  Trp Ser
         2100                    2105                    2110

gac aga act  cac gcc aat ggc tcc  atc aag cgc ggc tgc  aaa gac        6822
Asp Arg Thr  His Ala Asn Gly Ser  Ile Lys Arg Gly Cys  Lys Asp
         2115                    2120                    2125

aat gct aca  gac tcc gtg cct ctg  agg aca ggc att ggt  gtt cag        6867
Asn Ala Thr  Asp Ser Val Pro Leu  Arg Thr Gly Ile Gly  Val Gln
         2130                    2135                    2140

ctt aaa gac  atc aag gtc ttc aac  agg gac agg cag aag  ggt acc        6912
Leu Lys Asp  Ile Lys Val Phe Asn  Arg Asp Arg Gln Lys  Gly Thr
         2145                    2150                    2155

aat gtg tgc  gcg gta gcc aac ggc  ggg tgc cag cag ctc  tgc ttg        6957
Asn Val Cys  Ala Val Ala Asn Gly  Gly Cys Gln Gln Leu  Cys Leu
         2160                    2165                    2170
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tat cgg ggt  ggc gga cag cga gcc  tgt gcc tgt gcc cac  ggg atg        7002
Tyr Arg Gly  Gly Gly Gln Arg Ala  Cys Ala Cys Ala His  Gly Met
        2175             2180                 2185

ctg gca gaa  gac ggg gcc tca tgc  cga gag tac gct ggc  tac ctg        7047
Leu Ala Glu  Asp Gly Ala Ser Cys  Arg Glu Tyr Ala Gly  Tyr Leu
        2190             2195                 2200

ctc tac tca  gag cgg acc atc ctc  aag agc atc cac ctg  tcg gat        7092
Leu Tyr Ser  Glu Arg Thr Ile Leu  Lys Ser Ile His Leu  Ser Asp
        2205             2210                 2215

gag cgt aac  ctc aac gca ccg gtg  cag ccc ttt gaa gac  ccc gag        7137
Glu Arg Asn  Leu Asn Ala Pro Val  Gln Pro Phe Glu Asp  Pro Glu
        2220             2225                 2230

cac atg aaa  aat gtc atc gcc ctg  gcc ttt gac tac cga  gca ggc        7182
His Met Lys  Asn Val Ile Ala Leu  Ala Phe Asp Tyr Arg  Ala Gly
        2235             2240                 2245

acc tcc ccg  ggg acc cct aac cgc  atc ttc ttc agt gac  atc cac        7227
Thr Ser Pro  Gly Thr Pro Asn Arg  Ile Phe Phe Ser Asp  Ile His
        2250             2255                 2260

ttt ggg aac  atc cag cag atc aat  gac gat ggc tcg ggc  agg acc        7272
Phe Gly Asn  Ile Gln Gln Ile Asn  Asp Asp Gly Ser Gly  Arg Thr
        2265             2270                 2275

acc atc gtg  gaa aat gtg ggc tct  gtg gaa ggc ctg gcc  tat cac        7317
Thr Ile Val  Glu Asn Val Gly Ser  Val Glu Gly Leu Ala  Tyr His
        2280             2285                 2290

cgt ggc tgg  gac aca ctg tac tgg  aca agc tac acc aca  tcc acc        7362
Arg Gly Trp  Asp Thr Leu Tyr Trp  Thr Ser Tyr Thr Thr  Ser Thr
        2295             2300                 2305

atc acc cgc  cac acc gtg gac cag  act cgc cca ggg gcc  ttc gag        7407
Ile Thr Arg  His Thr Val Asp Gln  Thr Arg Pro Gly Ala  Phe Glu
        2310             2315                 2320

agg gag aca  gtc atc acc atg tcc  gga gac gac cac ccg  aga gcc        7452
Arg Glu Thr  Val Ile Thr Met Ser  Gly Asp Asp His Pro  Arg Ala
        2325             2330                 2335

ttt gtg ctg  gat gag tgc cag aac  ctg atg ttc tgg acc  aat tgg        7497
Phe Val Leu  Asp Glu Cys Gln Asn  Leu Met Phe Trp Thr  Asn Trp
        2340             2345                 2350

aac gag ctc  cat cca agc atc atg  cgg gca gcc cta tcc  gga gcc        7542
Asn Glu Leu  His Pro Ser Ile Met  Arg Ala Ala Leu Ser  Gly Ala
        2355             2360                 2365

aac gtc ctg  acc ctc att gag aag  gac atc cgc acg ccc  aat ggg        7587
Asn Val Leu  Thr Leu Ile Glu Lys  Asp Ile Arg Thr Pro  Asn Gly
        2370             2375                 2380

ttg gcc atc  gac cac cgg gcg gag  aag ctg tac ttc tcg  gat gcc        7632
Leu Ala Ile  Asp His Arg Ala Glu  Lys Leu Tyr Phe Ser  Asp Ala
        2385             2390                 2395
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acc ttg gac   aag atc gag cgc tgc   gag tac gac ggc tcc   cac cgc        7677
Thr Leu Asp   Lys Ile Glu Arg Cys   Glu Tyr Asp Gly Ser   His Arg
        2400              2405                 2410

tat gtg atc   cta aag tcg gag ccc   gtc cac ccc ttt ggg   ttg gcg        7722
Tyr Val Ile   Leu Lys Ser Glu Pro   Val His Pro Phe Gly   Leu Ala
        2415              2420                 2425

gtg tac gga   gag cac att ttc tgg   act gac tgg gtg cgg   cgg gct        7767
Val Tyr Gly   Glu His Ile Phe Trp   Thr Asp Trp Val Arg   Arg Ala
        2430              2435                 2440

gtg cag cga   gcc aac aag tat gtg   ggc agc gac atg aag   ctg ctt        7812
Val Gln Arg   Ala Asn Lys Tyr Val   Gly Ser Asp Met Lys   Leu Leu
        2445              2450                 2455

cgg gtg gac   att ccc cag caa ccc   atg ggc atc atc gcc   gtg gcc        7857
Arg Val Asp   Ile Pro Gln Gln Pro   Met Gly Ile Ile Ala   Val Ala
        2460              2465                 2470

aat gac acc   aac agc tgt gaa ctc   tcc ccc tgc cgt atc   aac aat        7902
Asn Asp Thr   Asn Ser Cys Glu Leu   Ser Pro Cys Arg Ile   Asn Asn
        2475              2480                 2485

gga ggc tgc   cag gat ctg tgt ctg   ctc acc cac caa ggc   cac gtc        7947
Gly Gly Cys   Gln Asp Leu Cys Leu   Leu Thr His Gln Gly   His Val
        2490              2495                 2500

aac tgt tcc   tgt cga ggg ggc cgg   atc ctc cag gag gac   ttc acc        7992
Asn Cys Ser   Cys Arg Gly Gly Arg   Ile Leu Gln Glu Asp   Phe Thr
        2505              2510                 2515

tgc cgg gct   gtg aac tcc tct tgt   cgg gca caa gat gag   ttt gag        8037
Cys Arg Ala   Val Asn Ser Ser Cys   Arg Ala Gln Asp Glu   Phe Glu
        2520              2525                 2530

tgt gcc aat   ggg gaa tgt atc agc   ttc agc ctc acc tgt   gat ggc        8082
Cys Ala Asn   Gly Glu Cys Ile Ser   Phe Ser Leu Thr Cys   Asp Gly
        2535              2540                 2545

gtc tcc cac   tgc aag gac aag tcc   gat gag aag ccc tcc   tac tgc        8127
Val Ser His   Cys Lys Asp Lys Ser   Asp Glu Lys Pro Ser   Tyr Cys
        2550              2555                 2560

aac tca cgc   cgc tgc aag aag act   ttc cgc cag tgt aac   aat ggc        8172
Asn Ser Arg   Arg Cys Lys Lys Thr   Phe Arg Gln Cys Asn   Asn Gly
        2565              2570                 2575

cgc tgt gta   tcc aac atg ctg tgg   tgc aat ggg gtg gat   tac tgt        8217
Arg Cys Val   Ser Asn Met Leu Trp   Cys Asn Gly Val Asp   Tyr Cys
        2580              2585                 2590

ggg gat ggc   tct gat gag ata cct   tgc aac aag act gcc   tgt ggt        8262
Gly Asp Gly   Ser Asp Glu Ile Pro   Cys Asn Lys Thr Ala   Cys Gly
        2595              2600                 2605

gtg ggt gag   ttc cgc tgc cgg gat   ggg tcc tgc atc ggg   aac tcc        8307
Val Gly Glu   Phe Arg Cys Arg Asp   Gly Ser Cys Ile Gly   Asn Ser
        2610              2615                 2620

agt cgc tgc   aac cag ttt gtg gat   tgt gag gat gcc tcg   gat gag        8352
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Ser Arg Cys   Asn Gln Phe Val Asp   Cys Glu Asp Ala Ser   Asp Glu
        2625                  2630                  2635

atg aat tgc   agt gcc aca gac tgc   agc agc tat ttc cgc   ctg ggc        8397
Met Asn Cys   Ser Ala Thr Asp Cys   Ser Ser Tyr Phe Arg   Leu Gly .
        2640                  2645                  2650

gtg aaa ggt   gtc ctc ttc cag ccg   tgc gag cgg aca tcc   ctg tgc        8442
Val Lys Gly   Val Leu Phe Gln Pro   Cys Glu Arg Thr Ser   Leu Cys
        2655                  2660                  2665

tac gca cct   agc tgg gtg tgt gat   ggc gcc aac gac tgt   gga gac        8487
Tyr Ala Pro   Ser Trp Val Cys Asp   Gly Ala Asn Asp Cys   Gly Asp
        2670                  2675                  2680

tac agc gat   gaa cgt gac tgt cca   ggt gtg aag cgc cct   agg tgc        8532
Tyr Ser Asp   Glu Arg Asp Cys Pro   Gly Val Lys Arg Pro   Arg Cys
        2685                  2690                  2695

ccg ctc aat   tac ttt gcc tgc ccc   agc ggg cgc tgt atc   ccc atg        8577
Pro Leu Asn   Tyr Phe Ala Cys Pro   Ser Gly Arg Cys Ile   Pro Met
        2700                  2705                  2710

agc tgg acg   tgt gac aag gag gat   gac tgt gag aac ggc   gag gat        8622
Ser Trp Thr   Cys Asp Lys Glu Asp   Asp Cys Glu Asn Gly   Glu Asp
        2715                  2720                  2725

gag acc cac   tgc aac aag ttc tgc   tca gag gca cag ttc   gag tgc        8667
Glu Thr His   Cys Asn Lys Phe Cys   Ser Glu Ala Gln Phe   Glu Cys
        2730                  2735                  2740

cag aac cac   cgg tgt atc tcc aag   cag tgg ctg tgt gac   ggt agc        8712
Gln Asn His   Arg Cys Ile Ser Lys   Gln Trp Leu Cys Asp   Gly Ser
        2745                  2750                  2755

gat gat tgc   ggg gat ggc tcc gat   gag gca gct cac tgt   gaa ggc        8757
Asp Asp Cys   Gly Asp Gly Ser Asp   Glu Ala Ala His Cys   Glu Gly
        2760                  2765                  2770

aag aca tgt   ggc ccc tcc tcc ttc   tcc tgt ccc ggc acc   cac gtg        8802
Lys Thr Cys   Gly Pro Ser Ser Phe   Ser Cys Pro Gly Thr   His Val
        2775                  2780                  2785

tgt gtc cct   gag cgc tgg ctc tgt   gat ggc gac aag gac   tgt acc        8847
Cys Val Pro   Glu Arg Trp Leu Cys   Asp Gly Asp Lys Asp   Cys Thr
        2790                  2795                  2800

gat ggc gcg   gat gag agt gtc act   gct ggc tgc ctg tac   aac agc        8892
Asp Gly Ala   Asp Glu Ser Val Thr   Ala Gly Cys Leu Tyr   Asn Ser
        2805                  2810                  2815

acc tgt gat   gac cgt gag ttc atg   tgc cag aac cgc ttg   tgt att        8937
Thr Cys Asp   Asp Arg Glu Phe Met   Cys Gln Asn Arg Leu   Cys Ile
        2820                  2825                  2830

ccc aag cat   ttc gtg tgc gac cat   gac cgt gac tgt gct   gat ggc        8982
Pro Lys His   Phe Val Cys Asp His   Asp Arg Asp Cys Ala   Asp Gly
        2835                  2840                  2845

tct gat gaa   tcc cct gag tgt gag   tac cca acc tgc ggg   ccc aat        9027
Ser Asp Glu   Ser Pro Glu Cys Glu   Tyr Pro Thr Cys Gly   Pro Asn
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gaa ttc cgc  tgt gcc aat ggg cgt  tgt ctg agc tcc cgt  cag tgg      9072
Glu Phe Arg  Cys Ala Asn Gly Arg  Cys Leu Ser Ser Arg  Gln Trp
        2865                 2870                 2875

gaa tgt gat  ggg gag aat gac tgt  cac gac cac agc gat  gag gct      9117
Glu Cys Asp  Gly Glu Asn Asp Cys  His Asp His Ser Asp  Glu Ala
        2880                 2885                 2890

ccc aag aac  cca cac tgc acc agc  cca gag cac aaa tgc  aat gcc      9162
Pro Lys Asn  Pro His Cys Thr Ser  Pro Glu His Lys Cys  Asn Ala
        2895                 2900                 2905

tca tca cag  ttc ctg tgc agc agc  ggg cgc tgc gtg gct  gag gcg      9207
Ser Ser Gln  Phe Leu Cys Ser Ser  Gly Arg Cys Val Ala  Glu Ala
        2910                 2915                 2920

ttg ctc tgc  aac ggc cag gac gac  tgt ggg gac ggt tca  gac gaa      9252
Leu Leu Cys  Asn Gly Gln Asp Asp  Cys Gly Asp Gly Ser  Asp Glu
        2925                 2930                 2935

cgc ggg tgc  cat gtc aac gag tgt  ctc agc cgc aag ctc  agt ggc      9297
Arg Gly Cys  His Val Asn Glu Cys  Leu Ser Arg Lys Leu  Ser Gly
        2940                 2945                 2950

tgc agt cag  gac tgc gag gac ctc  aag ata ggc ttt aag  tgc cgc      9342
Cys Ser Gln  Asp Cys Glu Asp Leu  Lys Ile Gly Phe Lys  Cys Arg
        2955                 2960                 2965

tgt cgc ccg  ggc ttc cgg cta aag  gac gat ggc agg acc  tgt gcc      9387
Cys Arg Pro  Gly Phe Arg Leu Lys  Asp Asp Gly Arg Thr  Cys Ala
        2970                 2975                 2980

gac ctg gat  gag tgc agc acc acc  ttc ccc tgc agc cag  ctc tgc      9432
Asp Leu Asp  Glu Cys Ser Thr Thr  Phe Pro Cys Ser Gln  Leu Cys
        2985                 2990                 2995

atc aac acc  cac gga agt tac aag  tgt ctg tgt gtg gag  ggc tat      9477
Ile Asn Thr  His Gly Ser Tyr Lys  Cys Leu Cys Val Glu  Gly Tyr
        3000                 3005                 3010

gca ccc cgt  ggc ggt gac ccc cac  agc tgc aaa gct gtg  acc gat      9522
Ala Pro Arg  Gly Gly Asp Pro His  Ser Cys Lys Ala Val  Thr Asp
        3015                 3020                 3025

gag gag cca  ttt ctc atc ttt gcc  aac cgg tac tac ctg  cgg aag      9567
Glu Glu Pro  Phe Leu Ile Phe Ala  Asn Arg Tyr Tyr Leu  Arg Lys
        3030                 3035                 3040

ctc aac ctg  gac ggc tcc aac tac  aca ctg ctt aag cag  ggc ctg      9612
Leu Asn Leu  Asp Gly Ser Asn Tyr  Thr Leu Leu Lys Gln  Gly Leu
        3045                 3050                 3055

aac aat gcg  gtc gcc ttg gca ttt  gac tac cga gag cag  atg atc      9657
Asn Asn Ala  Val Ala Leu Ala Phe  Asp Tyr Arg Glu Gln  Met Ile
        3060                 3065                 3070

tac tgg acg  ggc gtg acc acc cag  ggc agc atg att cgc  agg atg      9702
Tyr Trp Thr  Gly Val Thr Thr Gln  Gly Ser Met Ile Arg  Arg Met
        3075                 3080                 3085
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cac ctc aac  ggc agc aac gtg cag  gtt ctg cac cgg acg  ggc ctt        9747
His Leu Asn  Gly Ser Asn Val Gln  Val Leu His Arg Thr  Gly Leu
        3090                 3095                 3100

agt aac cca  gat ggg ctc gct gtg  gac tgg gtg ggt ggc  aac ctg        9792
Ser Asn Pro  Asp Gly Leu Ala Val  Asp Trp Val Gly Gly  Asn Leu
        3105                 3110                 3115

tac tgg tgt  gac aag ggc aga gat  acc att gag gtg tcc  aag ctt        9837
Tyr Trp Cys  Asp Lys Gly Arg Asp  Thr Ile Glu Val Ser  Lys Leu
        3120                 3125                 3130

aac ggg gcc  tat cgg aca gtg ctg  gtc agc tct ggc ctc  cgg gag        9882
Asn Gly Ala  Tyr Arg Thr Val Leu  Val Ser Ser Gly Leu  Arg Glu
        3135                 3140                 3145

ccc aga gct  ctg gta gtg gat gta  cag aat ggg tac ctg  tac tgg        9927
Pro Arg Ala  Leu Val Val Asp Val  Gln Asn Gly Tyr Leu  Tyr Trp
        3150                 3155                 3160

aca gac tgg  ggt gac cac tca ctg  atc ggc cgg att ggc  atg gat        9972
Thr Asp Trp  Gly Asp His Ser Leu  Ile Gly Arg Ile Gly  Met Asp
        3165                 3170                 3175

gga tct ggc  cgc agc atc atc gtg  gac act aag atc aca  tgg ccc       10017
Gly Ser Gly  Arg Ser Ile Ile Val  Asp Thr Lys Ile Thr  Trp Pro
        3180                 3185                 3190

aat ggc ctg  acc gtg gac tac gtc  acg gaa cgc atc tac  tgg gct       10062
Asn Gly Leu  Thr Val Asp Tyr Val  Thr Glu Arg Ile Tyr  Trp Ala
        3195                 3200                 3205

gac gcc cgt  gag gac tac atc gag  ttc gcc agc ctg gat  ggc tcc       10107
Asp Ala Arg  Glu Asp Tyr Ile Glu  Phe Ala Ser Leu Asp  Gly Ser
        3210                 3215                 3220

aac cgt cac  gtt gtg ctg agc caa  gac atc cca cac atc  ttt gcg       10152
Asn Arg His  Val Val Leu Ser Gln  Asp Ile Pro His Ile  Phe Ala
        3225                 3230                 3235

ctg acc cta  ttt gaa gac tac gtc  tac tgg aca gac tgg  gaa acg       10197
Leu Thr Leu  Phe Glu Asp Tyr Val  Tyr Trp Thr Asp Trp  Glu Thr
        3240                 3245                 3250

aag tcc atc  aac cgg gcc cac aag  acc acg ggt gcc aac  aaa aca       10242
Lys Ser Ile  Asn Arg Ala His Lys  Thr Thr Gly Ala Asn  Lys Thr
        3255                 3260                 3265

ctc ctc atc  agc acc ctg cac cgg  ccc atg gac tta cat  gta ttc       10287
Leu Leu Ile  Ser Thr Leu His Arg  Pro Met Asp Leu His  Val Phe
        3270                 3275                 3280

cac gcc ctg  cgc cag cca gat gtg  ccc aat cac ccc tgc  aaa gtc       10332
His Ala Leu  Arg Gln Pro Asp Val  Pro Asn His Pro Cys  Lys Val
        3285                 3290                 3295

aac aat ggt  ggc tgc agc aac ctg  tgc ctg ctg tcc cct  ggg ggt       10377
Asn Asn Gly  Gly Cys Ser Asn Leu  Cys Leu Leu Ser Pro  Gly Gly
        3300                 3305                 3310
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ggt cac aag  tgc gcc tgc ccc acc  aac ttc tat ctg ggt  ggc gat      10422
Gly His Lys  Cys Ala Cys Pro Thr  Asn Phe Tyr Leu Gly  Gly Asp
        3315                  3320              3325

ggc cgt acc  tgt gtg tcc aac tgc  aca gca agc cag ttt  gtg tgc      10467
Gly Arg Thr  Cys Val Ser Asn Cys  Thr Ala Ser Gln Phe  Val Cys
        3330                  3335              3340

aaa aat gac  aag tgc atc ccc ttc  tgg tgg aag tgt gac  acg gag      10512
Lys Asn Asp  Lys Cys Ile Pro Phe  Trp Trp Lys Cys Asp  Thr Glu
        3345                  3350              3355

gac gac tgt  ggg gat cac tca gac  gag cct cca gac tgt  ccc gag      10557
Asp Asp Cys  Gly Asp His Ser Asp  Glu Pro Pro Asp Cys  Pro Glu
        3360                  3365              3370

ttc aag tgc  cgc cca ggc cag ttc  cag tgc tcc acc ggc  atc tgc      10602
Phe Lys Cys  Arg Pro Gly Gln Phe  Gln Cys Ser Thr Gly  Ile Cys
        3375                  3380              3385

acc aac cct  gcc ttc atc tgt gat  ggg gac aat gac tgc  caa gac      10647
Thr Asn Pro  Ala Phe Ile Cys Asp  Gly Asp Asn Asp Cys  Gln Asp
        3390                  3395              3400

aat agt gac  gag gcc aat tgc gac  att cac gtc tgc ttg  ccc agc      10692
Asn Ser Asp  Glu Ala Asn Cys Asp  Ile His Val Cys Leu  Pro Ser
        3405                  3410              3415

caa ttc aag  tgc acc aac acc aac  cgc tgc att cct ggc  atc ttc      10737
Gln Phe Lys  Cys Thr Asn Thr Asn  Arg Cys Ile Pro Gly  Ile Phe
        3420                  3425              3430

cgt tgc aat  ggg cag gac aac tgc  ggg gac ggc gag gat  gag cgg      10782
Arg Cys Asn  Gly Gln Asp Asn Cys  Gly Asp Gly Glu Asp  Glu Arg
        3435                  3440              3445

gat tgc cct  gag gtg acc tgc gcc  ccc aac cag ttc cag  tgc tcc      10827
Asp Cys Pro  Glu Val Thr Cys Ala  Pro Asn Gln Phe Gln  Cys Ser
        3450                  3455              3460

atc acc aag  cgc tgc atc cct cgc  gtc tgg gtc tgt gac  agg gat      10872
Ile Thr Lys  Arg Cys Ile Pro Arg  Val Trp Val Cys Asp  Arg Asp
        3465                  3470              3475

aat cac tgt  gtg gac ggc agt gat  gag cct gcc aac tgt  acc caa      10917
Asn His Cys  Val Asp Gly Ser Asp  Glu Pro Ala Asn Cys  Thr Gln
        3480                  3485              3490

atg acc tgt  gga gtg gat gag ttc  cgc tgc aag gat tct  ggc cgc      10962
Met Thr Cys  Gly Val Asp Glu Phe  Arg Cys Lys Asp Ser  Gly Arg
        3495                  3500              3505

tgc atc ccc  gcg cgc tgg aag tgt  gac gga gaa gat gac  tgt ggg      11007
Cys Ile Pro  Ala Arg Trp Lys Cys  Asp Gly Glu Asp Asp  Cys Gly
        3510                  3515              3520

gat ggt tca  gat gag ccc aag gaa  gag tgt gat gag cgc  acc tgt      11052
Asp Gly Ser  Asp Glu Pro Lys Glu  Glu Cys Asp Glu Arg  Thr Cys
        3525                  3530              3535

gag cca tac  cag ttc cgc tgc aaa  aac aac cgc tgt gtc  cca ggc      11097
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Glu Pro Tyr  Gln Phe Arg Cys Lys  Asn Asn Arg Cys Val  Pro Gly
        3540              3545              3550

cgt tgg caa  tgt gac tac gac aac  gac tgc gga gat aac  tcg gac        11142
Arg Trp Gln  Cys Asp Tyr Asp Asn  Asp Cys Gly Asp Asn  Ser Asp
        3555              3560              3565

gag gag agc  tgc aca cct cgg ccc  tgc tct gag agt gag  ttt ttc        11187
Glu Glu Ser  Cys Thr Pro Arg Pro  Cys Ser Glu Ser Glu  Phe Phe
        3570              3575              3580

tgt gcc aat  ggc cgc tgc atc gct  ggg cgc tgg aag tgt  gat ggg        11232
Cys Ala Asn  Gly Arg Cys Ile Ala  Gly Arg Trp Lys Cys  Asp Gly
        3585              3590              3595

gac cat gac  tgt gcc gac ggc tca  gac gag aaa gac tgc  acc ccc        11277
Asp His Asp  Cys Ala Asp Gly Ser  Asp Glu Lys Asp Cys  Thr Pro
        3600              3605              3610

cgc tgt gat  atg gac cag ttc cag  tgc aag agt ggc cac  tgc atc        11322
Arg Cys Asp  Met Asp Gln Phe Gln  Cys Lys Ser Gly His  Cys Ile
        3615              3620              3625

ccc ctg cgc  tgg ccg tgt gac gcg  gat gct gac tgt atg  gac ggc        11367
Pro Leu Arg  Trp Pro Cys Asp Ala  Asp Ala Asp Cys Met  Asp Gly
        3630              3635              3640

agt gac gag  gaa gcc tgt ggc act  ggg gtg agg acc tgc  cca ttg        11412
Ser Asp Glu  Glu Ala Cys Gly Thr  Gly Val Arg Thr Cys  Pro Leu
        3645              3650              3655

gat gag ttt  caa tgt aac aac acc  ttg tgc aag ccg ctg  gcc tgg        11457
Asp Glu Phe  Gln Cys Asn Asn Thr  Leu Cys Lys Pro Leu  Ala Trp
        3660              3665              3670

aag tgt gat  gga gag gac gac tgt  ggg gac aac tca gat  gag aac        11502
Lys Cys Asp  Gly Glu Asp Asp Cys  Gly Asp Asn Ser Asp  Glu Asn
        3675              3680              3685

ccc gag gaa  tgc gcc cgg ttc atc  tgc cct ccc aac cgg  cct ttc        11547
Pro Glu Glu  Cys Ala Arg Phe Ile  Cys Pro Pro Asn Arg  Pro Phe
        3690              3695              3700

cgc tgc aag  aat gac cga gtc tgc  ctg tgg att ggg cgc  cag tgt        11592
Arg Cys Lys  Asn Asp Arg Val Cys  Leu Trp Ile Gly Arg  Gln Cys
        3705              3710              3715

gat ggc gtg  gac aac tgt gga gat  ggg act gac gag gag  gac tgt        11637
Asp Gly Val  Asp Asn Cys Gly Asp  Gly Thr Asp Glu Glu  Asp Cys
        3720              3725              3730

gag ccc ccc  acg gcc cag aac ccc  cac tgc aaa gac aag  aag gag        11682
Glu Pro Pro  Thr Ala Gln Asn Pro  His Cys Lys Asp Lys  Lys Glu
        3735              3740              3745

ttc ctg tgc  cga aac cag cgc tgt  cta tca tcc tcc ctg  cgc tgt        11727
Phe Leu Cys  Arg Asn Gln Arg Cys  Leu Ser Ser Ser Leu  Arg Cys
        3750              3755              3760

aac atg ttc  gat gac tgc ggc gat  ggc tcc gat gaa gaa  gat tgc        11772
Asn Met Phe  Asp Asp Cys Gly Asp  Gly Ser Asp Glu Glu  Asp Cys
```

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agc atc gac ccc aag ctg acc agc tgt gcc acc aat gcc agc atg   11817
Ser Ile Asp Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Met
        3780   3785   3790

tgt ggg gac gaa gct cgt tgt gtg cgc act gag aaa gct gcc tac   11862
Cys Gly Asp Glu Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr
        3795   3800   3805

tgt gcc tgc cgc tcg ggc ttc cat act gtg ccg ggc cag ccc gga   11907
Cys Ala Cys Arg Ser Gly Phe His Thr Val Pro Gly Gln Pro Gly
        3810   3815   3820

tgc cag gac atc aac gag tgc ctg cgc ttt ggt acc tgc tct cag   11952
Cys Gln Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr Cys Ser Gln
        3825   3830   3835

ctc tgg aac aaa ccc aag gga ggc cac ctc tgc agc tgt gcc cgc   11997
Leu Trp Asn Lys Pro Lys Gly Gly His Leu Cys Ser Cys Ala Arg
        3840   3845   3850

aac ttc atg aag aca cac aac acc tgc aaa gct gaa ggc tcc gag   12042
Asn Phe Met Lys Thr His Asn Thr Cys Lys Ala Glu Gly Ser Glu
        3855   3860   3865

tac cag gtg cta tac atc gcg gat gac aac gag atc cgc agc ttg   12087
Tyr Gln Val Leu Tyr Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu
        3870   3875   3880

ttc ccg ggc cac ccc cac tca gcc tac gag cag aca ttc cag ggc   12132
Phe Pro Gly His Pro His Ser Ala Tyr Glu Gln Thr Phe Gln Gly
        3885   3890   3895

gat gag agt gtc cgc ata gat gcc atg gat gtc cat gtc aag gcc   12177
Asp Glu Ser Val Arg Ile Asp Ala Met Asp Val His Val Lys Ala
        3900   3905   3910

ggc cgt gtc tac tgg act aac tgg cac acg ggc aca atc tcc tac   12222
Gly Arg Val Tyr Trp Thr Asn Trp His Thr Gly Thr Ile Ser Tyr
        3915   3920   3925

agg agc ctg ccc cct gcc gcc cct cct acc act tcc aac cgc cac   12267
Arg Ser Leu Pro Pro Ala Ala Pro Pro Thr Thr Ser Asn Arg His
        3930   3935   3940

cgg agg cag atc gac cgg ggt gtc acc cac ctc aat att tca ggg   12312
Arg Arg Gln Ile Asp Arg Gly Val Thr His Leu Asn Ile Ser Gly
        3945   3950   3955

ctg aag atg ccg agg ggt atc gct atc gac tgg gtg gcc ggg aat   12357
Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp Val Ala Gly Asn
        3960   3965   3970

gtg tac tgg acc gat tcc ggc cga gac gtg att gag gtg gcg caa   12402
Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu Val Ala Gln
        3975   3980   3985

atg aag ggc gag aac cgc aag acg ctc atc tcg ggc atg att gat   12447
Met Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met Ile Asp
        3990   3995   4000

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gag ccc cat  gcc atc gtg gtg gac  cct ctg agg ggc acc  atg tac       12492
Glu Pro His  Ala Ile Val Val Asp  Pro Leu Arg Gly Thr  Met Tyr
        4005                 4010                 4015

tgg tca gac  tgg ggg aac cac ccc  aag att gaa aca gca  gcg atg       12537
Trp Ser Asp  Trp Gly Asn His Pro  Lys Ile Glu Thr Ala  Ala Met
        4020                 4025                 4030

gat ggc acc  ctt cgg gag act ctc  gtg caa gac aac att  cag tgg       12582
Asp Gly Thr  Leu Arg Glu Thr Leu  Val Gln Asp Asn Ile  Gln Trp
        4035                 4040                 4045

cct aca ggg  ctg gct gtg gac tat  cac aat gaa cgg ctc  tac tgg       12627
Pro Thr Gly  Leu Ala Val Asp Tyr  His Asn Glu Arg Leu  Tyr Trp
        4050                 4055                 4060

gca gat gcc  aag ctt tcg gtc atc  ggc agc atc cgg ctc  aac ggc       12672
Ala Asp Ala  Lys Leu Ser Val Ile  Gly Ser Ile Arg Leu  Asn Gly
        4065                 4070                 4075

act gac ccc  att gtg gct gct gac  agc aaa cga ggc cta  agt cac       12717
Thr Asp Pro  Ile Val Ala Ala Asp  Ser Lys Arg Gly Leu  Ser His
        4080                 4085                 4090

ccc ttc agc  atc gat gtg ttt gaa  gac tac atc tac gga  gtc act       12762
Pro Phe Ser  Ile Asp Val Phe Glu  Asp Tyr Ile Tyr Gly  Val Thr
        4095                 4100                 4105

tac atc aat  aat cgt gtc ttc aag  atc cac aag ttt gga  cac agc       12807
Tyr Ile Asn  Asn Arg Val Phe Lys  Ile His Lys Phe Gly  His Ser
        4110                 4115                 4120

ccc ttg tac  aac cta act ggg ggc  ctg agc cat gcc tct  gat gta       12852
Pro Leu Tyr  Asn Leu Thr Gly Gly  Leu Ser His Ala Ser  Asp Val
        4125                 4130                 4135

gtc ctt tac  cat caa cac aag cag  cct gaa gtg acc aac  ccc tgt       12897
Val Leu Tyr  His Gln His Lys Gln  Pro Glu Val Thr Asn  Pro Cys
        4140                 4145                 4150

gac cgc aag  aaa tgc gaa tgg ctg  tgt ctg ctg agc ccc  agc ggg       12942
Asp Arg Lys  Lys Cys Glu Trp Leu  Cys Leu Leu Ser Pro  Ser Gly
        4155                 4160                 4165

cct gtc tgc  acc tgt ccc aat gga  aag agg ctg gat aat  ggc acc       12987
Pro Val Cys  Thr Cys Pro Asn Gly  Lys Arg Leu Asp Asn  Gly Thr
        4170                 4175                 4180

tgt gtg cct  gtg ccc tct cca aca  ccc cct cca gat gcc  cct agg       13032
Cys Val Pro  Val Pro Ser Pro Thr  Pro Pro Pro Asp Ala  Pro Arg
        4185                 4190                 4195

cct gga acc  tgc act ctg cag tgc  ttc aat ggt ggt agt  tgt ttc       13077
Pro Gly Thr  Cys Thr Leu Gln Cys  Phe Asn Gly Gly Ser  Cys Phe
        4200                 4205                 4210

ctc aac gct  cgg agg cag ccc aag  tgc cgt tgc cag ccc  cgt tac       13122
Leu Asn Ala  Arg Arg Gln Pro Lys  Cys Arg Cys Gln Pro  Arg Tyr
        4215                 4220                 4225
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aca ggc gat   aag tgt gag ctg gat   cag tgc tgg gaa tac   tgt cac         13167
Thr Gly Asp   Lys Cys Glu Leu Asp   Gln Cys Trp Glu Tyr   Cys His
            4230                  4235                  4240

aac gga ggc   acc tgt gcg gct tcc   cca tct ggc atg ccc   acg tgc         13212
Asn Gly Gly   Thr Cys Ala Ala Ser   Pro Ser Gly Met Pro   Thr Cys
            4245                  4250                  4255

cgc tgt ccc   act ggc ttc acg ggc   ccc aaa tgc acc gca   cag gtg         13257
Arg Cys Pro   Thr Gly Phe Thr Gly   Pro Lys Cys Thr Ala   Gln Val
            4260                  4265                  4270

tgt gca ggc   tac tgc tct aac aac   agc acc tgc acc gtc   aac cag         13302
Cys Ala Gly   Tyr Cys Ser Asn Asn   Ser Thr Cys Thr Val   Asn Gln
            4275                  4280                  4285

ggc aac cag   ccc cag tgc cga tgt   cta cct ggc ttc ctg   ggc gac         13347
Gly Asn Gln   Pro Gln Cys Arg Cys   Leu Pro Gly Phe Leu   Gly Asp
            4290                  4295                  4300

cgt tgc cag   tac cgg cag tgc tct   ggc ttc tgt gag aac   ttt ggc         13392
Arg Cys Gln   Tyr Arg Gln Cys Ser   Gly Phe Cys Glu Asn   Phe Gly
            4305                  4310                  4315

acc tgt cag   atg gct gct gat ggc   tcc cga caa tgt cgc   tgc acc         13437
Thr Cys Gln   Met Ala Ala Asp Gly   Ser Arg Gln Cys Arg   Cys Thr
            4320                  4325                  4330

gtc tac ttt   gag gga cca agg tgt   gag gtg aac aag tgt   agt cgc         13482
Val Tyr Phe   Glu Gly Pro Arg Cys   Glu Val Asn Lys Cys   Ser Arg
            4335                  4340                  4345

tgt ctc caa   ggc gcc tgt gtg gtc   aat aag cag acc gga   gat gtc         13527
Cys Leu Gln   Gly Ala Cys Val Val   Asn Lys Gln Thr Gly   Asp Val
            4350                  4355                  4360

aca tgc aac   tgc act gat ggc cgg   gta gcc ccc agt tgt   ctc acc         13572
Thr Cys Asn   Cys Thr Asp Gly Arg   Val Ala Pro Ser Cys   Leu Thr
            4365                  4370                  4375

tgc atc gat   cac tgt agc aat ggt   ggc tcc tgc acc atg   aac agc         13617
Cys Ile Asp   His Cys Ser Asn Gly   Gly Ser Cys Thr Met   Asn Ser
            4380                  4385                  4390

aag atg atg   cct gag tgc cag tgc   ccg ccc cat atg aca   gga ccc         13662
Lys Met Met   Pro Glu Cys Gln Cys   Pro Pro His Met Thr   Gly Pro
            4395                  4400                  4405

cgg tgc cag   gag cag gtt gtt agt   cag caa cag cct ggg   cat atg         13707
Arg Cys Gln   Glu Gln Val Val Ser   Gln Gln Gln Pro Gly   His Met
            4410                  4415                  4420

gcc tcc atc   ctg atc cct ctg ctg   ctg ctt ctc ctg ctg   ctt ctg         13752
Ala Ser Ile   Leu Ile Pro Leu Leu   Leu Leu Leu Leu Leu   Leu Leu
            4425                  4430                  4435

gtg gct ggc   gtg gtg ttc tgg tat   aag cgg cga gtc cga   ggg gct         13797
Val Ala Gly   Val Val Phe Trp Tyr   Lys Arg Arg Val Arg   Gly Ala
            4440                  4445                  4450

aag ggc ttc   cag cac cag cgg atg   acc aat ggg gcc atg   aat gtg         13842
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Lys Gly Phe  Gln His Gln Arg Met  Thr Asn Gly Ala  Met  Asn Val
         4455             4460             4465

gaa att gga  aac cct acc tac aag  atg tat gaa ggt gga  gag ccc          13887
Glu Ile Gly  Asn Pro Thr Tyr Lys  Met Tyr Glu Gly Gly  Glu Pro
         4470             4475             4480

gat gat gtc  ggg ggc cta ctg gat  gct gat ttt gcc ctt  gac cct          13932
Asp Asp Val  Gly Gly Leu Leu Asp  Ala Asp Phe Ala Leu  Asp Pro
         4485             4490             4495

gac aag cct  acc aac ttc acc aac  cca gtg tat gcc acg  ctc tac          13977
Asp Lys Pro  Thr Asn Phe Thr Asn  Pro Val Tyr Ala Thr  Leu Tyr
         4500             4505             4510

atg ggg ggc  cac ggc agc cgc cat  tcc ctg gcc agc acg  gac gag          14022
Met Gly Gly  His Gly Ser Arg His  Ser Leu Ala Ser Thr  Asp Glu
         4515             4520             4525

aag cga gaa  ctg ctg ggc cgg gga  cct gaa gac gag ata  gga gat          14067
Lys Arg Glu  Leu Leu Gly Arg Gly  Pro Glu Asp Glu Ile  Gly Asp
         4530             4535             4540

ccc ttg gca  tag ggccctgccc cgacggatgt ccccagaaag ccccctgcca           14119
Pro Leu Ala
         4545


catgagtctt tcaatgaacc ccctccccag ccggcccttc tccggccctg ccgggtgtac      14179

aaatgtaaaa atgaaggaat tactttttat atgtgagcga gcaagcgagc aagcacagta      14239

ttatctcttt gcatttcctt cctgcctgct cctcagtatc cccccatgc tgccttgagg       14299

gggcggggag ggctttgtgg ctcaaaggta tgaaggagtc cacatgttcc ctaccgagca      14359

tacccctgga agcctggcgg cacggcctcc ccaccacgcc tgtgcaagac actcaacggg      14419

gctccgtgtc ccagctttcc tttccttggc tctctggggt tagttcaggg gaggtggagt      14479

cctctgctga ccctgtctgg aagatttggc tctagctgag gaaggagtct tttagttgag      14539

ggaagtcacc ccaaacccca gctcccactt tcaggggcac ctctcagatg gccatgctca      14599

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acacattctt tggtaactgt cccccaagcc tcccatcccc ctgagggcca ggaagagtcg      14719

gggcacacca aggaagggca agcgggcagc cccattttgg ggacgtgaac gttttaataa      14779

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aaaaaaaaaa                                                             14849


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<211>  4545
<212>  PRT
<213>  Mus sp.

<400>  2
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Met Leu Thr Pro Pro Leu Leu Leu Leu Val Pro Leu Leu Ser Ala Leu
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Val Ser Gly Ala Thr Met Asp Ala Pro Lys Thr Cys Ser Pro Lys Gln
            20              25              30

Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile Ser Lys Gly Trp Arg Cys
            35              40              45

Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser Asp Glu Ala Pro Glu Ile
        50              55              60

Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro Pro Asn Glu His Ser Cys
65              70              75              80

Leu Gly Thr Glu Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Ile
            85              90              95

Gln Asp Cys Met Asp Gly Ser Asp Glu Gly Ala His Cys Arg Glu Leu
            100             105             110

Arg Ala Asn Cys Ser Arg Met Gly Cys Gln His His Cys Val Pro Thr
            115             120             125

Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser Ser Phe Gln Leu Glu Ala
    130             135             140

Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu Cys Ser Val Tyr Gly Thr
145             150             155             160

Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly Ser Phe Thr Cys Gly Cys
            165             170             175

Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn Arg Ser Cys Lys Ala Lys
            180             185             190

Asn Glu Pro Val Asp Arg Pro Pro Val Leu Leu Ile Ala Asn Ser Gln
        195             200             205

Asn Ile Leu Ala Thr Tyr Leu Ser Gly Ala Gln Val Ser Thr Ile Thr
    210             215             220

Pro Thr Ser Thr Arg Gln Thr Thr Ala Met Asp Phe Ser Tyr Ala Asn
225             230             235             240

Glu Thr Val Cys Trp Val His Val Gly Asp Ser Ala Ala Gln Thr Gln
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Leu Lys Cys Ala Arg Met Pro Gly Leu Lys Gly Phe Val Asp Glu His
        260   265   270

Thr Ile Asn Ile Ser Leu Ser Leu His His Val Glu Gln Met Ala Ile
        275   280   285

Asp Trp Leu Thr Gly Asn Phe Tyr Phe Val Asp Asp Ile Asp Asp Arg
    290   295   300

Ile Phe Val Cys Asn Arg Asn Gly Asp Thr Cys Val Thr Leu Leu Asp
305   310   315   320

Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala Leu Asp Pro Ala Met Gly
            325   330   335

Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile Pro Lys Val Glu Arg Cys
        340   345   350

Asp Met Asp Gly Gln Asn Arg Thr Lys Leu Val Asp Ser Lys Ile Val
        355   360   365

Phe Pro His Gly Ile Thr Leu Asp Leu Val Ser Arg Leu Val Tyr Trp
    370   375   380

Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val Val Asp Tyr Glu Gly Lys
385   390   395   400

Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu Ile Glu His Leu Tyr Gly
            405   410   415

Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala Thr Asn Ser Asp Asn Ala
        420   425   430

Asn Thr Gln Gln Lys Thr Ser Val Ile Arg Val Asn Arg Phe Asn Ser
        435   440   445

Thr Glu Tyr Gln Val Val Thr Arg Val Asp Lys Gly Gly Ala Leu His
    450   455   460

Ile Tyr His Gln Arg Arg Gln Pro Arg Val Arg Ser His Ala Cys Glu
465   470   475   480

Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys Ser Asp Ile Cys Leu Leu
            485   490   495

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Ala Asn Ser His Lys Ala Arg Thr Cys Arg Cys Arg Ser Gly Phe Ser
            500             505             510

Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys Pro Glu His Glu Leu Phe
            515             520             525

Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile Ile Arg Gly Met Asp Met
    530             535             540

Gly Ala Lys Val Pro Asp Glu His Met Ile Pro Ile Glu Asn Leu Met
545             550             555             560

Asn Pro Arg Ala Leu Asp Phe His Ala Glu Thr Gly Phe Ile Tyr Phe
            565             570             575

Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg Gln Lys Ile Asp Gly Thr
        580             585             590

Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile His Asn Val Glu Gly Val
    595             600             605

Ala Val Asp Trp Met Gly Asp Asn Leu Tyr Trp Thr Asp Asp Gly Pro
    610             615             620

Lys Lys Thr Ile Ser Val Ala Arg Leu Glu Lys Ala Ala Gln Thr Arg
625             630             635             640

Lys Thr Leu Ile Glu Gly Lys Met Thr His Pro Arg Ala Ile Val Val
            645             650             655

Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr Asp Trp Glu Glu Asp Pro
            660             665             670

Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg Ala Trp Met Asp Gly Ser
            675             680             685

His Arg Asp Ile Phe Val Thr Ser Lys Thr Val Leu Trp Pro Asn Gly
    690             695             700

Leu Ser Leu Asp Ile Pro Ala Gly Arg Leu Tyr Trp Val Asp Ala Phe
705             710             715             720

Tyr Asp Arg Ile Glu Thr Ile Leu Leu Asn Gly Thr Asp Arg Lys Ile
            725             730             735
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Val Tyr Glu Gly Pro Glu Leu Asn His Ala Phe Gly Leu Cys His His
        740         745                 750

Gly Asn Tyr Leu Phe Trp Thr Glu Tyr Arg Ser Gly Ser Val Tyr Arg
        755             760                 765

Leu Glu Arg Gly Val Ala Gly Ala Pro Pro Thr Val Thr Leu Leu Arg
    770             775                 780

Ser Glu Arg Pro Pro Ile Phe Glu Ile Arg Met Tyr Asp Ala His Glu
785             790                 795                     800

Gln Gln Val Gly Thr Asn Lys Cys Arg Val Asn Asn Gly Gly Cys Ser
            805                 810                 815

Ser Leu Cys Leu Ala Thr Pro Gly Ser Arg Gln Cys Ala Cys Ala Glu
        820             825                 830

Asp Gln Val Leu Asp Thr Asp Gly Val Thr Cys Leu Ala Asn Pro Ser
        835             840             845

Tyr Val Pro Pro Pro Gln Cys Gln Pro Gly Gln Phe Ala Cys Ala Asn
    850             855                 860

Asn Arg Cys Ile Gln Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys
865             870             875                     880

Leu Asp Asn Ser Asp Glu Ala Pro Ala Leu Cys His Gln His Thr Cys
            885             890                 895

Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg
            900             905             910

Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser
        915             920             925

Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys
    930             935             940

Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp
945             950             955                     960

Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr
            965             970                 975
```

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Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn
             980   985   990

Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp
         995   1000   1005

Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys
    1010   1015   1020

Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp
    1025   1030   1035

Asn Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr
    1040   1045   1050

Asn Gln Ala Thr Arg Pro Pro Gly Gly Cys His Ser Asp Glu Phe
    1055   1060   1065

Gln Cys Pro Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys
    1070   1075   1080

Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys
    1085   1090   1095

Glu Gly Val Thr His Val Cys Asp Pro Asn Val Lys Phe Gly Cys
    1100   1105   1110

Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys Asp Gly
    1115   1120   1125

Asp Ser Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu Ala
    1130   1135   1140

Leu Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser
    1145   1150   1155

Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly Lys Asp Asp Cys
    1160   1165   1170

Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp Gln Cys Ser Leu
    1175   1180   1185

Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala Pro Gly Glu
    1190   1195   1200

Gly Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly Ser Asp

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            1205                     1210                      1215


Asn His  Thr Cys Gln Ile Gln  Ser Tyr Cys Ala Lys  His Leu Lys
    1220                 1225                 1230


Cys Ser  Gln Lys Cys Asp Gln  Asn Lys Phe Ser Val  Lys Cys Ser
    1235                 1240                 1245


Cys Tyr  Glu Gly Trp Val Leu  Glu Pro Asp Gly Glu  Thr Cys Arg
    1250                 1255                 1260


Ser Leu  Asp Pro Phe Lys Leu  Phe Ile Ile Phe Ser  Asn Arg His
    1265                 1270                 1275


Glu Ile  Arg Arg Ile Asp Leu  His Lys Gly Asp Tyr  Ser Val Leu
    1280                 1285                 1290


Val Pro  Gly Leu Arg Asn Thr  Ile Ala Leu Asp Phe  His Leu Ser
    1295                 1300                 1305


Gln Ser  Ala Leu Tyr Trp Thr  Asp Ala Val Glu Asp  Lys Ile Tyr
    1310                 1315                 1320


Arg Gly  Lys Leu Leu Asp Asn  Gly Ala Leu Thr Ser  Phe Glu Val
    1325                 1330                 1335


Val Ile  Gln Tyr Gly Leu Ala  Thr Pro Glu Gly Leu  Ala Val Asp
    1340                 1345                 1350


Trp Ile  Ala Gly Asn Ile Tyr  Trp Val Glu Ser Asn  Leu Asp Gln
    1355                 1360                 1365


Ile Glu  Val Ala Lys Leu Asp  Gly Thr Leu Arg Thr  Thr Leu Leu
    1370                 1375                 1380


Ala Gly  Asp Ile Glu His Pro  Arg Ala Ile Ala Leu  Asp Pro Arg
    1385                 1390                 1395


Asp Gly  Ile Leu Phe Trp Thr  Asp Trp Asp Ala Ser  Leu Pro Arg
    1400                 1405                 1410


Ile Glu  Ala Ala Ser Met Ser  Gly Ala Gly Arg Arg  Thr Ile His
    1415                 1420                 1425


Arg Glu  Thr Gly Ser Gly Gly  Cys Ala Asn Gly Leu  Thr Val Asp
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                1430                    1435                        1440


    Tyr Leu  Glu Lys Arg Ile Leu  Trp Ile Asp Ala Arg  Ser Asp Ala
        1445                 1450                 1455


    Ile Tyr  Ser Ala Arg Tyr Asp  Gly Ser Gly His Met  Glu Val Leu
        1460                 1465                 1470


    Arg Gly  His Glu Phe Leu Ser  His Pro Phe Ala Val  Thr Leu Tyr
        1475                 1480                 1485


    Gly Gly  Glu Val Tyr Trp Thr  Asp Trp Arg Thr Asn  Thr Leu Ala
        1490                 1495                 1500


    Lys Ala  Asn Lys Trp Thr Gly  His Asn Val Thr Val  Val Gln Arg
        1505                 1510                 1515


    Thr Asn  Thr Gln Pro Phe Asp  Leu Gln Val Tyr His  Pro Ser Arg
        1520                 1525                 1530


    Gln Pro  Met Ala Pro Asn Pro  Cys Glu Ala Asn Gly  Gly Arg Gly
        1535                 1540                 1545


    Pro Cys  Ser His Leu Cys Leu  Ile Asn Tyr Asn Arg  Thr Val Ser
        1550                 1555                 1560


    Trp Ala  Cys Pro His Leu Met  Lys Leu His Lys Asp  Asn Thr Thr
        1565                 1570                 1575


    Cys Tyr  Glu Phe Lys Lys Phe  Leu Leu Tyr Ala Arg  Gln Met Glu
        1580                 1585                 1590


    Ile Arg  Gly Val Asp Leu Asp  Ala Pro Tyr Tyr Asn  Tyr Ile Ile
        1595                 1600                 1605


    Ser Phe  Thr Val Pro Asp Ile  Asp Asn Val Thr Val  Leu Asp Tyr
        1610                 1615                 1620


    Asp Ala  Arg Glu Gln Arg Val  Tyr Trp Ser Asp Val  Arg Thr Gln
        1625                 1630                 1635


    Ala Ile  Lys Arg Ala Phe Ile  Asn Gly Thr Gly Val  Glu Thr Val
        1640                 1645                 1650


    Val Ser  Ala Asp Leu Pro Asn  Ala His Gly Leu Ala  Val Asp Trp
        1655                 1660                 1665


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Val Ser  Arg Asn Leu Phe Trp  Thr Ser Tyr Asp Thr  Asn Lys Lys
    1670             1675             1680

Gln Ile  Asn Val Ala Arg Leu  Asp Gly Ser Phe Lys  Asn Ala Val
    1685             1690             1695

Val Gln  Gly Leu Glu Gln Pro  His Gly Leu Val Val  His Pro Leu
    1700             1705             1710

Arg Gly  Lys Leu Tyr Trp Thr  Asp Gly Asp Asn Ile  Ser Met Ala
    1715             1720             1725

Asn Met  Asp Gly Ser Asn His  Thr Leu Leu Phe Ser  Gly Gln Lys
    1730             1735             1740

Gly Pro  Val Gly Leu Ala Ile  Asp Phe Pro Glu Ser  Lys Leu Tyr
    1745             1750             1755

Trp Ile  Ser Ser Gly Asn His  Thr Ile Asn Arg Cys  Asn Leu Asp
    1760             1765             1770

Gly Ser  Glu Leu Glu Val Ile  Asp Thr Met Arg Ser  Gln Leu Gly
    1775             1780             1785

Lys Ala  Thr Ala Leu Ala Ile  Met Gly Asp Lys Leu  Trp Trp Ala
    1790             1795             1800

Asp Gln  Val Ser Glu Lys Met  Gly Thr Cys Asn Lys  Ala Asp Gly
    1805             1810             1815

Ser Gly  Ser Val Val Leu Arg  Asn Ser Thr Thr Leu  Val Met His
    1820             1825             1830

Met Lys  Val Tyr Asp Glu Ser  Ile Gln Leu Glu His  Glu Gly Thr
    1835             1840             1845

Asn Pro  Cys Ser Val Asn Asn  Gly Asp Cys Ser Gln  Leu Cys Leu
    1850             1855             1860

Pro Thr  Ser Glu Thr Thr Arg  Ser Cys Met Cys Thr  Ala Gly Tyr
    1865             1870             1875

Ser Leu  Arg Ser Gly Gln Gln  Ala Cys Glu Gly Val  Gly Ser Phe
    1880             1885             1890
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Leu Leu  Tyr Ser Val His Glu  Gly Ile Arg Gly Ile  Pro Leu Asp
    1895             1900             1905

Pro Asn  Asp Lys Ser Asp Ala  Leu Val Pro Val Ser  Gly Thr Ser
    1910             1915             1920

Leu Ala  Val Gly Ile Asp Phe  His Ala Glu Asn Asp  Thr Ile Tyr
    1925             1930             1935

Trp Val  Asp Met Gly Leu Ser  Thr Ile Ser Arg Ala  Lys Arg Asp
    1940             1945             1950

Gln Thr  Trp Arg Glu Asp Val  Val Thr Asn Gly Ile  Gly Arg Val
    1955             1960             1965

Glu Gly  Ile Ala Val Asp Trp  Ile Ala Gly Asn Ile  Tyr Trp Thr
    1970             1975             1980

Asp Gln  Gly Phe Asp Val Ile  Glu Val Ala Arg Leu  Asn Gly Ser
    1985             1990             1995

Phe Arg  Tyr Val Val Ile Ser  Gln Gly Leu Asp Lys  Pro Arg Ala
    2000             2005             2010

Ile Thr  Val His Pro Glu Lys  Gly Tyr Leu Phe Trp  Thr Glu Trp
    2015             2020             2025

Gly His  Tyr Pro Arg Ile Glu  Arg Ser Arg Leu Asp  Gly Thr Glu
    2030             2035             2040

Arg Val  Val Leu Val Asn Val  Ser Ile Ser Trp Pro  Asn Gly Ile
    2045             2050             2055

Ser Val  Asp Tyr Gln Gly Gly  Lys Leu Tyr Trp Cys  Asp Ala Arg
    2060             2065             2070

Met Asp  Lys Ile Glu Arg Ile  Asp Leu Glu Thr Gly  Glu Asn Arg
    2075             2080             2085

Glu Val  Val Leu Ser Ser Asn  Asn Met Asp Met Phe  Ser Val Ser
    2090             2095             2100

Val Phe  Glu Asp Phe Ile Tyr  Trp Ser Asp Arg Thr  His Ala Asn
    2105             2110             2115
```

Gly Ser Ile Lys Arg Gly Cys Lys Asp Asn Ala Thr Asp Ser Val
    2120   2125   2130

Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys Asp Ile Lys Val
    2135   2140   2145

Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys Ala Val Ala
    2150   2155   2160

Asn Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Gly Gly Gln
    2165   2170   2175

Arg Ala Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly Ala
    2180   2185   2190

Ser Cys Arg Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr
    2195   2200   2205

Ile Leu Lys Ser Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala
    2210   2215   2220

Pro Val Gln Pro Phe Glu Asp Pro Glu His Met Lys Asn Val Ile
    2225   2230   2235

Ala Leu Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro Gly Thr Pro
    2240   2245   2250

Asn Arg Ile Phe Phe Ser Asp Ile His Phe Gly Asn Ile Gln Gln
    2255   2260   2265

Ile Asn Asp Asp Gly Ser Gly Arg Thr Thr Ile Val Glu Asn Val
    2270   2275   2280

Gly Ser Val Glu Gly Leu Ala Tyr His Arg Gly Trp Asp Thr Leu
    2285   2290   2295

Tyr Trp Thr Ser Tyr Thr Thr Ser Thr Ile Thr Arg His Thr Val
    2300   2305   2310

Asp Gln Thr Arg Pro Gly Ala Phe Glu Arg Glu Thr Val Ile Thr
    2315   2320   2325

Met Ser Gly Asp Asp His Pro Arg Ala Phe Val Leu Asp Glu Cys
    2330   2335   2340

Gln Asn Leu Met Phe Trp Thr Asn Trp Asn Glu Leu His Pro Ser

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Ile Met Arg Ala Ala Leu Ser Gly Ala Asn Val Leu Thr Leu Ile
    2360   2365   2370

Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala Ile Asp His Arg
    2375   2380   2385

Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp Lys Ile Glu
    2390   2395   2400

Arg Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu Lys Ser
    2405   2410   2415

Glu Pro Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His Ile
    2420   2425   2430

Phe Trp Thr Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys
    2435   2440   2445

Tyr Val Gly Ser Asp Met Lys Leu Leu Arg Val Asp Ile Pro Gln
    2450   2455   2460

Gln Pro Met Gly Ile Ile Ala Val Ala Asn Asp Thr Asn Ser Cys
    2465   2470   2475

Glu Leu Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys Gln Asp Leu
    2480   2485   2490

Cys Leu Leu Thr His Gln Gly His Val Asn Cys Ser Cys Arg Gly
    2495   2500   2505

Gly Arg Ile Leu Gln Glu Asp Phe Thr Cys Arg Ala Val Asn Ser
    2510   2515   2520

Ser Cys Arg Ala Gln Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys
    2525   2530   2535

Ile Ser Phe Ser Leu Thr Cys Asp Gly Val Ser His Cys Lys Asp
    2540   2545   2550

Lys Ser Asp Glu Lys Pro Ser Tyr Cys Asn Ser Arg Arg Cys Lys
    2555   2560   2565

Lys Thr Phe Arg Gln Cys Asn Asn Gly Arg Cys Val Ser Asn Met
    2570   2575   2580

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Leu Trp  Cys Asn Gly Val Asp  Tyr Cys Gly Asp Gly  Ser Asp Glu
    2585                 2590                 2595


Ile Pro  Cys Asn Lys Thr Ala  Cys Gly Val Gly Glu  Phe Arg Cys
    2600                 2605                 2610


Arg Asp  Gly Ser Cys Ile Gly  Asn Ser Ser Arg Cys  Asn Gln Phe
    2615                 2620                 2625


Val Asp  Cys Glu Asp Ala Ser  Asp Glu Met Asn Cys  Ser Ala Thr
    2630                 2635                 2640


Asp Cys  Ser Ser Tyr Phe Arg  Leu Gly Val Lys Gly  Val Leu Phe
    2645                 2650                 2655


Gln Pro  Cys Glu Arg Thr Ser  Leu Cys Tyr Ala Pro  Ser Trp Val
    2660                 2665                 2670


Cys Asp  Gly Ala Asn Asp Cys  Gly Asp Tyr Ser Asp  Glu Arg Asp
    2675                 2680                 2685


Cys Pro  Gly Val Lys Arg Pro  Arg Cys Pro Leu Asn  Tyr Phe Ala
    2690                 2695                 2700


Cys Pro  Ser Gly Arg Cys Ile  Pro Met Ser Trp Thr  Cys Asp Lys
    2705                 2710                 2715


Glu Asp  Asp Cys Glu Asn Gly  Glu Asp Glu Thr His  Cys Asn Lys
    2720                 2725                 2730


Phe Cys  Ser Glu Ala Gln Phe  Glu Cys Gln Asn His  Arg Cys Ile
    2735                 2740                 2745


Ser Lys  Gln Trp Leu Cys Asp  Gly Ser Asp Asp Cys  Gly Asp Gly
    2750                 2755                 2760


Ser Asp  Glu Ala Ala His Cys  Glu Gly Lys Thr Cys  Gly Pro Ser
    2765                 2770                 2775


Ser Phe  Ser Cys Pro Gly Thr  His Val Cys Val Pro  Glu Arg Trp
    2780                 2785                 2790


Leu Cys  Asp Gly Asp Lys Asp  Cys Thr Asp Gly Ala  Asp Glu Ser
    2795                 2800                 2805
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```
Val Thr  Ala Gly Cys Leu Tyr  Asn Ser Thr Cys Asp  Asp Arg Glu
    2810             2815             2820

Phe Met  Cys Gln Asn Arg Leu  Cys Ile Pro Lys His  Phe Val Cys
    2825             2830             2835

Asp His  Asp Arg Asp Cys Ala  Asp Gly Ser Asp Glu  Ser Pro Glu
    2840             2845             2850

Cys Glu  Tyr Pro Thr Cys Gly  Pro Asn Glu Phe Arg  Cys Ala Asn
    2855             2860             2865

Gly Arg  Cys Leu Ser Ser Arg  Gln Trp Glu Cys Asp  Gly Glu Asn
    2870             2875             2880

Asp Cys  His Asp His Ser Asp  Glu Ala Pro Lys Asn  Pro His Cys
    2885             2890             2895

Thr Ser  Pro Glu His Lys Cys  Asn Ala Ser Ser Gln  Phe Leu Cys
    2900             2905             2910

Ser Ser  Gly Arg Cys Val Ala  Glu Ala Leu Leu Cys  Asn Gly Gln
    2915             2920             2925

Asp Asp  Cys Gly Asp Gly Ser  Asp Glu Arg Gly Cys  His Val Asn
    2930             2935             2940

Glu Cys  Leu Ser Arg Lys Leu  Ser Gly Cys Ser Gln  Asp Cys Glu
    2945             2950             2955

Asp Leu  Lys Ile Gly Phe Lys  Cys Arg Cys Arg Pro  Gly Phe Arg
    2960             2965             2970

Leu Lys  Asp Asp Gly Arg Thr  Cys Ala Asp Leu Asp  Glu Cys Ser
    2975             2980             2985

Thr Thr  Phe Pro Cys Ser Gln  Leu Cys Ile Asn Thr  His Gly Ser
    2990             2995             3000

Tyr Lys  Cys Leu Cys Val Glu  Gly Tyr Ala Pro Arg  Gly Gly Asp
    3005             3010             3015

Pro His  Ser Cys Lys Ala Val  Thr Asp Glu Glu Pro  Phe Leu Ile
    3020             3025             3030
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Phe Ala  Asn Arg Tyr Tyr Leu  Arg Lys Leu Asn Leu  Asp Gly Ser
    3035             3040             3045

Asn Tyr  Thr Leu Leu Lys Gln  Gly Leu Asn Asn Ala  Val Ala Leu
    3050             3055             3060

Ala Phe  Asp Tyr Arg Glu Gln  Met Ile Tyr Trp Thr  Gly Val Thr
    3065             3070             3075

Thr Gln  Gly Ser Met Ile Arg  Arg Met His Leu Asn  Gly Ser Asn
    3080             3085             3090

Val Gln  Val Leu His Arg Thr  Gly Leu Ser Asn Pro  Asp Gly Leu
    3095             3100             3105

Ala Val  Asp Trp Val Gly Gly  Asn Leu Tyr Trp Cys  Asp Lys Gly
    3110             3115             3120

Arg Asp  Thr Ile Glu Val Ser  Lys Leu Asn Gly Ala  Tyr Arg Thr
    3125             3130             3135

Val Leu  Val Ser Ser Gly Leu  Arg Glu Pro Arg Ala  Leu Val Val
    3140             3145             3150

Asp Val  Gln Asn Gly Tyr Leu  Tyr Trp Thr Asp Trp  Gly Asp His
    3155             3160             3165

Ser Leu  Ile Gly Arg Ile Gly  Met Asp Gly Ser Gly  Arg Ser Ile
    3170             3175             3180

Ile Val  Asp Thr Lys Ile Thr  Trp Pro Asn Gly Leu  Thr Val Asp
    3185             3190             3195

Tyr Val  Thr Glu Arg Ile Tyr  Trp Ala Asp Ala Arg  Glu Asp Tyr
    3200             3205             3210

Ile Glu  Phe Ala Ser Leu Asp  Gly Ser Asn Arg His  Val Val Leu
    3215             3220             3225

Ser Gln  Asp Ile Pro His Ile  Phe Ala Leu Thr Leu  Phe Glu Asp
    3230             3235             3240

Tyr Val  Tyr Trp Thr Asp Trp  Glu Thr Lys Ser Ile  Asn Arg Ala
    3245             3250             3255

His Lys  Thr Thr Gly Ala Asn  Lys Thr Leu Leu Ile  Ser Thr Leu
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      3260                      3265                      3270


His Arg  Pro Met Asp Leu His  Val Phe His Ala Leu  Arg Gln Pro
      3275                      3280                      3285


Asp Val  Pro Asn His Pro Cys  Lys Val Asn Asn Gly  Gly Cys Ser
      3290                      3295                      3300


Asn Leu  Cys Leu Leu Ser Pro  Gly Gly Gly His Lys  Cys Ala Cys
      3305                      3310                      3315


Pro Thr  Asn Phe Tyr Leu Gly  Gly Asp Gly Arg Thr  Cys Val Ser
      3320                      3325                      3330


Asn Cys  Thr Ala Ser Gln Phe  Val Cys Lys Asn Asp  Lys Cys Ile
      3335                      3340                      3345


Pro Phe  Trp Trp Lys Cys Asp  Thr Glu Asp Asp Cys  Gly Asp His

      3350                      3355                      3360


Ser Asp  Glu Pro Pro Asp Cys  Pro Glu Phe Lys Cys  Arg Pro Gly
      3365                      3370                      3375


Gln Phe  Gln Cys Ser Thr Gly  Ile Cys Thr Asn Pro  Ala Phe Ile
      3380                      3385                      3390


Cys Asp  Gly Asp Asn Asp Cys  Gln Asp Asn Ser Asp  Glu Ala Asn
      3395                      3400                      3405


Cys Asp  Ile His Val Cys Leu  Pro Ser Gln Phe Lys  Cys Thr Asn
      3410                      3415                      3420


Thr Asn  Arg Cys Ile Pro Gly  Ile Phe Arg Cys Asn  Gly Gln Asp
      3425                      3430                      3435


Asn Cys  Gly Asp Gly Glu Asp  Glu Arg Asp Cys Pro  Glu Val Thr
      3440                      3445                      3450


Cys Ala  Pro Asn Gln Phe Gln  Cys Ser Ile Thr Lys  Arg Cys Ile
      3455                      3460                      3465


Pro Arg  Val Trp Val Cys Asp  Arg Asp Asn His Cys  Val Asp Gly
      3470                      3475                      3480


Ser Asp  Glu Pro Ala Asn Cys  Thr Gln Met Thr Cys  Gly Val Asp
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              3485                          3490                          3495


    Glu Phe Arg Cys Lys Asp Ser  Gly Arg Cys Ile Pro  Ala Arg Trp
        3500                 3505                 3510


    Lys Cys Asp Gly Glu Asp Asp  Cys Gly Asp Gly Ser  Asp Glu Pro
        3515                 3520                 3525


    Lys Glu Glu Cys Asp Glu Arg  Thr Cys Glu Pro Tyr  Gln Phe Arg
        3530                 3535                 3540


    Cys Lys Asn Asn Arg Cys Val  Pro Gly Arg Trp Gln  Cys Asp Tyr
        3545                 3550                 3555


    Asp Asn Asp Cys Gly Asp Asn  Ser Asp Glu Glu Ser  Cys Thr Pro
        3560                 3565                 3570


    Arg Pro Cys Ser Glu Ser Glu  Phe Phe Cys Ala Asn  Gly Arg Cys
        3575                 3580                 3585


    Ile Ala Gly Arg Trp Lys Cys  Asp Gly Asp His Asp  Cys Ala Asp
        3590                 3595                 3600


    Gly Ser Asp Glu Lys Asp Cys  Thr Pro Arg Cys Asp  Met Asp Gln
        3605                 3610                 3615


    Phe Gln Cys Lys Ser Gly His  Cys Ile Pro Leu Arg  Trp Pro Cys
        3620                 3625                 3630


    Asp Ala Asp Ala Asp Cys Met  Asp Gly Ser Asp Glu  Glu Ala Cys
        3635                 3640                 3645


    Gly Thr Gly Val Arg Thr Cys  Pro Leu Asp Glu Phe  Gln Cys Asn
        3650                 3655                 3660


    Asn Thr Leu Cys Lys Pro Leu  Ala Trp Lys Cys Asp  Gly Glu Asp
        3665                 3670                 3675


    Asp Cys Gly Asp Asn Ser Asp  Glu Asn Pro Glu Glu  Cys Ala Arg
        3680                 3685                 3690


    Phe Ile Cys Pro Pro Asn Arg  Pro Phe Arg Cys Lys  Asn Asp Arg
        3695                 3700                 3705


    Val Cys Leu Trp Ile Gly Arg  Gln Cys Asp Gly Val  Asp Asn Cys
        3710                 3715                 3720


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```
Gly Asp  Gly Thr Asp Glu Glu  Asp Cys Glu Pro Pro  Thr Ala Gln
    3725             3730             3735

Asn Pro  His Cys Lys Asp Lys  Lys Glu Phe Leu Cys  Arg Asn Gln
    3740             3745             3750

Arg Cys  Leu Ser Ser Ser Leu  Arg Cys Asn Met Phe  Asp Asp Cys
    3755             3760             3765

Gly Asp  Gly Ser Asp Glu Glu  Asp Cys Ser Ile Asp  Pro Lys Leu
    3770             3775             3780

Thr Ser  Cys Ala Thr Asn Ala  Ser Met Cys Gly Asp  Glu Ala Arg
    3785             3790             3795

Cys Val  Arg Thr Glu Lys Ala  Ala Tyr Cys Ala Cys  Arg Ser Gly
    3800             3805             3810

Phe His  Thr Val Pro Gly Gln  Pro Gly Cys Gln Asp  Ile Asn Glu
    3815             3820             3825

Cys Leu  Arg Phe Gly Thr Cys  Ser Gln Leu Trp Asn  Lys Pro Lys
    3830             3835             3840

Gly Gly  His Leu Cys Ser Cys  Ala Arg Asn Phe Met  Lys Thr His
    3845             3850             3855

Asn Thr  Cys Lys Ala Glu Gly  Ser Glu Tyr Gln Val  Leu Tyr Ile
    3860             3865             3870

Ala Asp  Asp Asn Glu Ile Arg  Ser Leu Phe Pro Gly  His Pro His
    3875             3880             3885

Ser Ala  Tyr Glu Gln Thr Phe  Gln Gly Asp Glu Ser  Val Arg Ile
    3890             3895             3900

Asp Ala  Met Asp Val His Val  Lys Ala Gly Arg Val  Tyr Trp Thr
    3905             3910             3915

Asn Trp  His Thr Gly Thr Ile  Ser Tyr Arg Ser Leu  Pro Pro Ala
    3920             3925             3930

Ala Pro  Pro Thr Thr Ser Asn  Arg His Arg Arg Gln  Ile Asp Arg
    3935             3940             3945
```

Gly Val Thr His Leu Asn Ile Ser Gly Leu Lys Met Pro Arg Gly
    3950   3955   3960

Ile Ala Ile Asp Trp Val Ala Gly Asn Val Tyr Trp Thr Asp Ser
    3965   3970   3975

Gly Arg Asp Val Ile Glu Val Ala Gln Met Lys Gly Glu Asn Arg
    3980   3985   3990

Lys Thr Leu Ile Ser Gly Met Ile Asp Glu Pro His Ala Ile Val
    3995   4000   4005

Val Asp Pro Leu Arg Gly Thr Met Tyr Trp Ser Asp Trp Gly Asn
    4010   4015   4020

His Pro Lys Ile Glu Thr Ala Ala Met Asp Gly Thr Leu Arg Glu
    4025   4030   4035

Thr Leu Val Gln Asp Asn Ile Gln Trp Pro Thr Gly Leu Ala Val
    4040   4045   4050

Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp Ala Lys Leu Ser
    4055   4060   4065

Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro Ile Val Ala
    4070   4075   4080

Ala Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile Asp Val
    4085   4090   4095

Phe Glu Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg Val
    4100   4105   4110

Phe Lys Ile His Lys Phe Gly His Ser Pro Leu Tyr Asn Leu Thr
    4115   4120   4125

Gly Gly Leu Ser His Ala Ser Asp Val Val Leu Tyr His Gln His
    4130   4135   4140

Lys Gln Pro Glu Val Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu
    4145   4150   4155

Trp Leu Cys Leu Leu Ser Pro Ser Gly Pro Val Cys Thr Cys Pro
    4160   4165   4170

Asn Gly Lys Arg Leu Asp Asn Gly Thr Cys Val Pro Val Pro Ser
    4175   4180   4185

Pro Thr Pro Pro Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr Leu
    4190   4195   4200

Gln Cys Phe Asn Gly Gly Ser Cys Phe Leu Asn Ala Arg Arg Gln
    4205   4210   4215

Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr Gly Asp Lys Cys Glu
    4220   4225   4230

Leu Asp Gln Cys Trp Glu Tyr Cys His Asn Gly Gly Thr Cys Ala
    4235   4240   4245

Ala Ser Pro Ser Gly Met Pro Thr Cys Arg Cys Pro Thr Gly Phe
    4250   4255   4260

Thr Gly Pro Lys Cys Thr Ala Gln Val Cys Ala Gly Tyr Cys Ser
    4265   4270   4275

Asn Asn Ser Thr Cys Thr Val Asn Gln Gly Asn Gln Pro Gln Cys
    4280   4285   4290

Arg Cys Leu Pro Gly Phe Leu Gly Asp Arg Cys Gln Tyr Arg Gln
    4295   4300   4305

Cys Ser Gly Phe Cys Glu Asn Phe Gly Thr Cys Gln Met Ala Ala
    4310   4315   4320

Asp Gly Ser Arg Gln Cys Arg Cys Thr Val Tyr Phe Glu Gly Pro
    4325   4330   4335

Arg Cys Glu Val Asn Lys Cys Ser Arg Cys Leu Gln Gly Ala Cys
    4340   4345   4350

Val Val Asn Lys Gln Thr Gly Asp Val Thr Cys Asn Cys Thr Asp
    4355   4360   4365

Gly Arg Val Ala Pro Ser Cys Leu Thr Cys Ile Asp His Cys Ser
    4370   4375   4380

Asn Gly Gly Ser Cys Thr Met Asn Ser Lys Met Met Pro Glu Cys
    4385   4390   4395

Gln Cys Pro Pro His Met Thr Gly Pro Arg Cys Gln Glu Gln Val

```
                4400                    4405                    4410


Val Ser  Gln Gln Gln Pro Gly  His Met Ala Ser Ile  Leu Ile Pro
    4415                4420                4425


Leu Leu  Leu Leu Leu Leu Leu  Leu Leu Val Ala Gly  Val Val Phe
    4430                4435                4440


Trp Tyr  Lys Arg Arg Val Arg  Gly Ala Lys Gly Phe  Gln His Gln
    4445                4450                4455


Arg Met  Thr Asn Gly Ala Met  Asn Val Glu Ile Gly  Asn Pro Thr
    4460                4465                4470


Tyr Lys  Met Tyr Glu Gly Gly  Glu Pro Asp Asp Val  Gly Gly Leu
    4475                4480                4485


Leu Asp  Ala Asp Phe Ala Leu  Asp Pro Asp Lys Pro  Thr Asn Phe
    4490                4495                4500

                .
Thr Asn  Pro Val Tyr Ala Thr  Leu Tyr Met Gly Gly  His Gly Ser
    4505                4510                4515


Arg His  Ser Leu Ala Ser Thr  Asp Glu Lys Arg Glu  Leu Leu Gly
    4520                4525                4530


Arg Gly  Pro Glu Asp Glu Ile  Gly Asp Pro Leu Ala
    4535                4540                4545



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<212>  PRT
<213>  Homo sapiens

<400>  3

Met Gly Lys Asn Lys Leu Leu His Pro Ser Leu Val Leu Leu Leu Leu
1               5               10              15


Val Leu Leu Pro Thr Asp Ala Ser Val Ser Gly Lys Pro Gln Tyr Met
            20              25              30


Val Leu Val Pro Ser Leu Leu His Thr Glu Thr Thr Glu Lys Gly Cys
        35              40              45


Val Leu Leu Ser Tyr Leu Asn Glu Thr Val Thr Val Ser Ala Ser Leu
    50              55              60
```

Glu Ser Val Arg Gly Asn Arg Ser Leu Phe Thr Asp Leu Glu Ala Glu
65   70   75   80

Asn Asp Val Leu His Cys Val Ala Phe Ala Val Pro Lys Ser Ser Ser
                85   90   95

Asn Glu Glu Val Met Phe Leu Thr Val Gln Val Lys Gly Pro Thr Gln
            100   105   110

Glu Phe Lys Lys Arg Thr Thr Val Met Val Lys Asn Glu Asp Ser Leu
        115   120   125

Val Phe Val Gln Thr Asp Lys Ser Ile Tyr Lys Pro Gly Gln Thr Val
    130   135   140

Lys Phe Arg Val Val Ser Met Asp Glu Asn Phe His Pro Leu Asn Glu
145   150   155   160

Leu Ile Pro Leu Val Tyr Ile Gln Asp Pro Lys Gly Asn Arg Ile Ala
            165   170   175

Gln Trp Gln Ser Phe Gln Leu Glu Gly Gly Leu Lys Gln Phe Ser Phe
        180   185   190

Pro Leu Ser Ser Glu Pro Phe Gln Gly Ser Tyr Lys Val Val Val Gln
        195   200   205

Lys Lys Ser Gly Gly Arg Thr Glu His Pro Phe Thr Val Glu Glu Phe
    210   215   220

Val Leu Pro Lys Phe Glu Val Gln Val Thr Val Pro Lys Ile Ile Thr
225   230   235   240

Ile Leu Glu Glu Glu Met Asn Val Ser Val Cys Gly Leu Tyr Thr Tyr
            245   250   255

Gly Lys Pro Val Pro Gly His Val Thr Val Ser Ile Cys Arg Lys Tyr
            260   265   270

Ser Asp Ala Ser Asp Cys His Gly Glu Asp Ser Gln Ala Phe Cys Glu
        275   280   285

Lys Phe Ser Gly Gln Leu Asn Ser His Gly Cys Phe Tyr Gln Gln Val
    290   295   300

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Lys Thr Lys Val Phe Gln Leu Lys Arg Lys Glu Tyr Glu Met Lys Leu
305   310   315   320

His Thr Glu Ala Gln Ile Gln Glu Glu Gly Thr Val Val Glu Leu Thr
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Gly Arg Gln Ser Ser Glu Ile Thr Arg Thr Ile Thr Lys Leu Ser Phe
                340   345   350

Val Lys Val Asp Ser His Phe Arg Gln Gly Ile Pro Phe Phe Gly Gln
                355   360   365

Val Arg Leu Val Asp Gly Lys Gly Val Pro Ile Pro Asn Lys Val Ile
    370   375   380

Phe Ile Arg Gly Asn Glu Ala Asn Tyr Tyr Ser Asn Ala Thr Thr Asp
385   390   395   400

Glu His Gly Leu Val Gln Phe Ser Ile Asn Thr Thr Asn Val Met Gly
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Thr Ser Leu Thr Val Arg Val Asn Tyr Lys Asp Arg Ser Pro Cys Tyr
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Gly Tyr Gln Trp Val Ser Glu Glu His Glu Glu Ala His His Thr Ala
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Tyr Leu Val Phe Ser Pro Ser Lys Ser Phe Val His Leu Glu Pro Met
    450   455   460

Ser His Glu Leu Pro Cys Gly His Thr Gln Thr Val Gln Ala His Tyr
465   470   475   480

Ile Leu Asn Gly Gly Thr Leu Leu Gly Leu Lys Lys Leu Ser Phe Tyr
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Tyr Leu Ile Met Ala Lys Gly Gly Ile Val Arg Thr Gly Thr His Gly
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Leu Leu Val Lys Gln Glu Asp Met Lys Gly His Phe Ser Ile Ser Ile
                515   520   525

Pro Val Lys Ser Asp Ile Ala Pro Val Ala Arg Leu Leu Ile Tyr Ala
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Val Leu Pro Thr Gly Asp Val Ile Gly Asp Ser Ala Lys Tyr Asp Val

Glu Asn Cys Leu Ala Asn Lys Val Asp Leu Ser Phe Ser Pro Ser Gln
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Ser Leu Pro Ala Ser His Ala His Leu Arg Val Thr Ala Ala Pro Gln
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Ser Val Cys Ala Leu Arg Ala Val Asp Gln Ser Val Leu Leu Met Lys
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Pro Asp Ala Glu Leu Ser Ala Ser Ser Val Tyr Asn Leu Leu Pro Glu
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Lys Asp Leu Thr Gly Phe Pro Gly Pro Leu Asn Asp Gln Asp Asp Glu
625   630   635   640

Asp Cys Ile Asn Arg His Asn Val Tyr Ile Asn Gly Ile Thr Tyr Thr
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Pro Val Ser Ser Thr Asn Glu Lys Asp Met Tyr Ser Phe Leu Glu Asp
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Met Gly Leu Lys Ala Phe Thr Asn Ser Lys Ile Arg Lys Pro Lys Met
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Cys Pro Gln Leu Gln Gln Tyr Glu Met His Gly Pro Glu Gly Leu Arg
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Val Gly Phe Tyr Glu Ser Asp Val Met Gly Arg Gly His Ala Arg Leu
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Val His Val Glu Glu Pro His Thr Glu Thr Val Arg Lys Tyr Phe Pro
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Glu Thr Trp Ile Trp Asp Leu Val Val Val Asn Ser Ala Gly Val Ala
                740   745   750

Glu Val Gly Val Thr Val Pro Asp Thr Ile Thr Glu Trp Lys Ala Gly
        755   760   765

Ala Phe Cys Leu Ser Glu Asp Ala Gly Leu Gly Ile Ser Ser Thr Ala
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Ser Leu Arg Ala Phe Gln Pro Phe Phe Val Glu Leu Thr Met Pro Tyr
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Ala Phe Leu Ala Val Pro Val Glu Lys Glu Gln Ala Pro His Cys Ile
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Cys Ala Asn Gly Arg Gln Thr Val Ser Trp Ala Val Thr Pro Lys Ser
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Leu Gly Asn Val Asn Phe Thr Val Ser Ala Glu Ala Leu Glu Ser Gln
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Glu Leu Cys Gly Thr Glu Val Pro Ser Val Pro Glu His Gly Arg Lys
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Asp Thr Val Ile Lys Pro Leu Leu Val Glu Pro Glu Gly Leu Glu Lys
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Glu Thr Thr Phe Asn Ser Leu Leu Cys Pro Ser Gly Gly Glu Val Ser
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Glu Glu Leu Ser Leu Lys Leu Pro Pro Asn Val Val Glu Glu Ser Ala
    930             935             940

Arg Ala Ser Val Ser Val Leu Gly Asp Ile Leu Gly Ser Ala Met Gln
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Asn Thr Gln Asn Leu Leu Gln Met Pro Tyr Gly Cys Gly Glu Gln Asn
            965             970             975

Met Val Leu Phe Ala Pro Asn Ile Tyr Val Leu Asp Tyr Leu Asn Glu
            980             985             990

Thr Gln Gln Leu Thr Pro Glu Val  Lys Ser Lys Ala Ile  Gly Tyr Leu
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Asn Thr  Gly Tyr Gln Arg Gln  Leu Asn Tyr Lys His  Tyr Asp Gly
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Ser Tyr  Ser Thr Phe Gly Glu  Arg Tyr Gly Arg Asn  Gln Gly Asn
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Ala Tyr Ile Phe Ile Asp Glu Ala His Ile Thr Gln Ala Leu Ile
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Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys Phe Arg Ser Ser
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Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu Asp Glu
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Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu Ile Pro
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Leu Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys Leu
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Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His Gly Ser His
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Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly
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Asn Gln Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu
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Ala Val Lys Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys
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Pro Lys Ala Pro Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser
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Ala Glu Val Glu Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr
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Ala Gln Pro Ala Pro Thr Ser Glu Asp Leu Thr Ser Ala Thr Asn
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Ile Val Lys Trp Ile Thr Lys Gln Gln Asn Ala Gln Gly Gly Phe
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Ser Ser Thr Gln Asp Thr Val Val Ala Leu His Ala Leu Ser Lys
    1250   1255   1260

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Tyr Gly Ala Ala Thr Phe Thr Arg Thr Gly Lys Ala Ala Gln Val
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Thr Ile Gln Ser Ser Gly Thr Phe Ser Ser Lys Phe Gln Val Asp
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Asn Asn Asn Arg Leu Leu Leu Gln Gln Val Ser Leu Pro Glu Leu
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Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu Gly Cys Val Tyr
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Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu Lys Glu Glu
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Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys Asp
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Glu Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser
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Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val
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Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met
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Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn
    1400   1405   1410

His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser
    1415   1420   1425

Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp Leu Lys
    1430   1435   1440

Pro Ala Ile Val Lys Val Tyr Asp Tyr Tyr Glu Thr Asp Glu Phe
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Gln Thr Leu Pro Gln Thr Cys Asp Glu Pro Lys Ala His Thr Ser Phe
            35                  40                  45


Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn
        50                  55                  60
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Met Ala Ile Val Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys
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Pro Thr Val Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu
              85   90   95

Val Ser Ser Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln
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Leu Lys Pro Ala Ile Val Lys Val Tyr Asp
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